

N00204.AR.003619
NAS PENSACOLA
5090.3a

SITE INVESTIGATION REPORT FOR SITES 25 AND 27 RADIUM DIAL SHOP NAS
PENSACOLA FL
10/1/1992
ABB ENVIRONMENTAL SERVICES, INC

**RADIUM DIAL SHOP
SITES 25 AND 27
SITE INVESTIGATION REPORT**

**NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA**

**Contract No. N62467-89-D-0317
Contract Task Order No. 067**

Prepared by:

**ABB Environmental Services, Inc.
2590 Executive Center Circle, East
Tallahassee, Florida 32301-5001**

Prepared for:

**Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
Charleston, South Carolina 29411-0068**

Kim Queen, Code 1859, Remedial Project Manager

October 1992

TABLE OF CONTENTS

Radium Dial Shop Sites 25 and 27 Site Investigation Report

<u>Section</u>	<u>Title</u>	<u>Page No.</u>
1.0	INTRODUCTION	1-1
1.1	PURPOSE AND BACKGROUND	1-1
1.2	SCOPE	1-1
2.0	SITE INVESTIGATION	2-1
2.1	SOIL SAMPLING	2-1
2.2	SAMPLE IDENTIFICATION	2-1
2.3	CHAIN OF CUSTODY (COC)	2-5
2.4	SAMPLE HANDLING AND SHIPPING PROCEDURES	2-5
2.5	FIELD QUALITY CONTROL SAMPLES	2-5
3.0	QUALITY ASSURANCE PROGRAM AND DATA QUALITY ASSESSMENT	3-1
3.1	SAMPLE HANDLING, DELIVERY, AND CHAIN OF CUSTODY	3-1
3.2	FIELD QUALITY CONTROL ASSESSMENT	3-1
3.3	LABORATORY QUALITY CONTROL ASSESSMENT	3-1
3.4	DATA ASSESSMENT	3-1
3.4.1	Precision	3-1
3.4.2	Accuracy	3-3
3.4.3	Representativeness	3-3
3.4.4	Completeness	3-3
3.4.5	Comparability	3-3
4.0	FINDINGS	4-1
4.1	ANALYSIS OF RESULTS	4-1
4.1.1	Site 25	4-1
4.1.2	Site 27	4-1
4.2	SUMMARY AND CONCLUSIONS	4-1

References

Appendix A - Laboratory Analytical Results

LIST OF FIGURES

Radium Dial Shop
Sites 25 and 27
Site Investigation Report

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
1-1	Installation Map of NAS Facility	1-3
1-2	Location of Site 25 and Site 27	1-4
2-1	Location of Soil Samples at Site 25	2-2
2-2	Location of Soil Samples at Site 27	2-3
2-3	Location of NAS Background Soil Sample	2-4

LIST OF TABLES

Radium Dial Shop
Sites 25 and 27
Site Investigation Report

<u>Tables</u>	<u>Title</u>	<u>Page No.</u>
1-1	Summary of Waste Disposal Activities at Sites 25 and 27	1-2
3-1	Field Quality Control Sample Results	3-2
4-1	Results of Analysis for Soil Samples at Site 25, TAL-CIP-CLP-Metals	4-2
4-2	Results of Analysis for Soil Samples at Site 27, TAL-CIP-CLP-Metals	4-3

GLOSSARY

ABB-ES	ABB Environmental Services
bls	below land surface
CIP	caucus inorganic protocol
CLP	contract laboratory program
COC	Chain of Custody
COP	caucus organic protocol
CRDL	contract required detection limits
DQOs	data quality objectives
LDR	land disposal restrictions
$\mu\text{g/l}$	micrograms per liter
mg/kg	milligrams per kilogram
NAS	Naval Air Station
NEESA	Naval Energy and Environmental Support Activity
QA	Quality Assurance
QC	Quality Control
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SVOCs	semivolatile organic compounds
TAL	target analyte list
TCL	total compound list
TCLP	Toxicity Characteristic Leaching Procedure
WAL	WADSWORTH/ALERT Laboratories
USEPA	U.S. Environmental Protection Agency
VOCs	volatile organic compounds

1.0 INTRODUCTION

ABB Environmental Services (ABB-ES), under contract to the Department of Navy, is submitting this Site Investigation report for Radium Dial Shop Sites 25 and 27 located at Naval Air Station (NAS) Pensacola, Florida. The Site Investigation was conducted under contract number N62467-89-D-0317.

The Site Investigation report summarizes the results of the field investigation, transmits the data and presents conclusions and recommendations for Sites 25 and 27.

1.1 PURPOSE AND BACKGROUND. The purpose of the Site Investigation at Sites 25 and 27 was to determine whether shallow surface and subsurface soils are contaminated with inorganic compounds and semivolatile organic compounds (SVOCs) (one location at Site 27) and screen the shallow soils using Toxicity Characteristic Leaching Procedure (TCLP) analysis. TCLP analysis will be used to see if these shallow soils would meet the land disposal restrictions (LDR) according to 40 CFR Part 268 (at the Navy's request in the Statement of Work (SOW) # 47 dated July, 1992).

One previous site investigation at Sites 25 and 27 was conducted in October 1991 for the Navy by Radian Corporation through ABB-ES. During this investigation volatile organic compounds (VOCs), SVOCs and radioactive contamination was assessed. No VOCs and only one SVOC (di-n-octylphthalate at two sampling locations) were detected during the initial investigation. No radiation was detected above background readings. However, sampling and analysis for inorganic compounds was not conducted during the initial site investigation and became the focus of this Site Investigation.

Shallow soils may potentially be removed for off-site disposal during the construction of a general purpose warehouse on Site 25 and a cold storage facility on Site 27. These shallow soils at Sites 25 and 27 could be classified as non-hazardous or hazardous based on whether TCLP analysis results meet LDRs or not (RCRA hazardous waste criteria: article 40 CFR 264D).

1.2 SCOPE. The scope of the Site Investigation at Sites 25 and 27, NAS Pensacola included the following:

- collection of shallow surface (0.5 to 1.5 ft. below land surface [bls]), subsurface (4-5 ft. bls), and background soil samples.
- laboratory analysis of all the samples for target analyte list (TAL) caucus inorganic protocol (CIP) contract laboratory program (CLP) metals (TAL-CIP-CLP-metals), and RCRA Toxicity Characteristic Leaching Procedure (TCLP) metals.
- laboratory analysis of two soil samples from Site 27 for total compound list (TCL) caucus organic protocol (COP) CLP semivolatile organic compounds (TCL-COP-CLP-SVOCs) where earlier investigations have indicated presence of one SVOC (di-n-octylphthalate).

1.3 INSTALLATION AND SITE DESCRIPTIONS. NAS Pensacola is located in Florida's northwest coastal area approximately two miles southwest of downtown Pensacola, Florida (Figure 1-1). The local topography of NAS Pensacola has little relief. The area lies within the coastal plain, and the eastern boundary of the base is Pensacola Bay which feeds into the Gulf of Mexico. The soils found in the area generally consist of well sorted, fine to medium grained sands ranging in color from yellow and tan to orange and brown.

Site 25 is a storage yard (also referred to as the "bone yard") for wrecked helicopters and other damaged aviation equipment. Site 25 covers approximately 0.25 acres and the ground surface is covered with metal tracking. Site 25 is located topographically downgradient from the former Radium Dial Shop and received surface water runoff from that area.

Site 27 is a grass field with four storage buildings located at the northwest corner of the site. The sanitary sewer leading from the former Radium Dial Shop passed through Site 27. For approximately 30 years liquid waste from the Radium Dial Shop was disposed of in the sanitary sewer. The locations of Sites 25 and 27 in relation to the former Radium Dial Shop are presented in Figure 1-2. Table 1-1 summarizes the waste disposal activities at Sites 25 and 27.

Table 1-1
Summary of Waste Disposal Activities at Sites 25 and 27

Site Investigation Report Radium Dial Shop Sewer Site, NAS Pensacola, Florida					
Site No.	Site Name	Dates Used	Description	Type of Waste	Quantity
25	Radium Spill Site	1978	Drum of low level radioactive waste broke open, spilling contents onto concrete floor of storage area	Low level radioactive waste containing radium.	Half drum
27	Radium Dial Shop Sewer	1940's to 1976	Liquid waste from instrument painting operations were routinely disposed to the sanitary sewer. Site is near building 709.	Cleaning solvents, phosphorous, pigment, paint acids, caustics, radium solutions.	1,500 gal/yr

Source: Community Relations Plan NAS Pensacola, Florida (Public Affairs Office, NAS Pensacola, Florida, March, 1990).

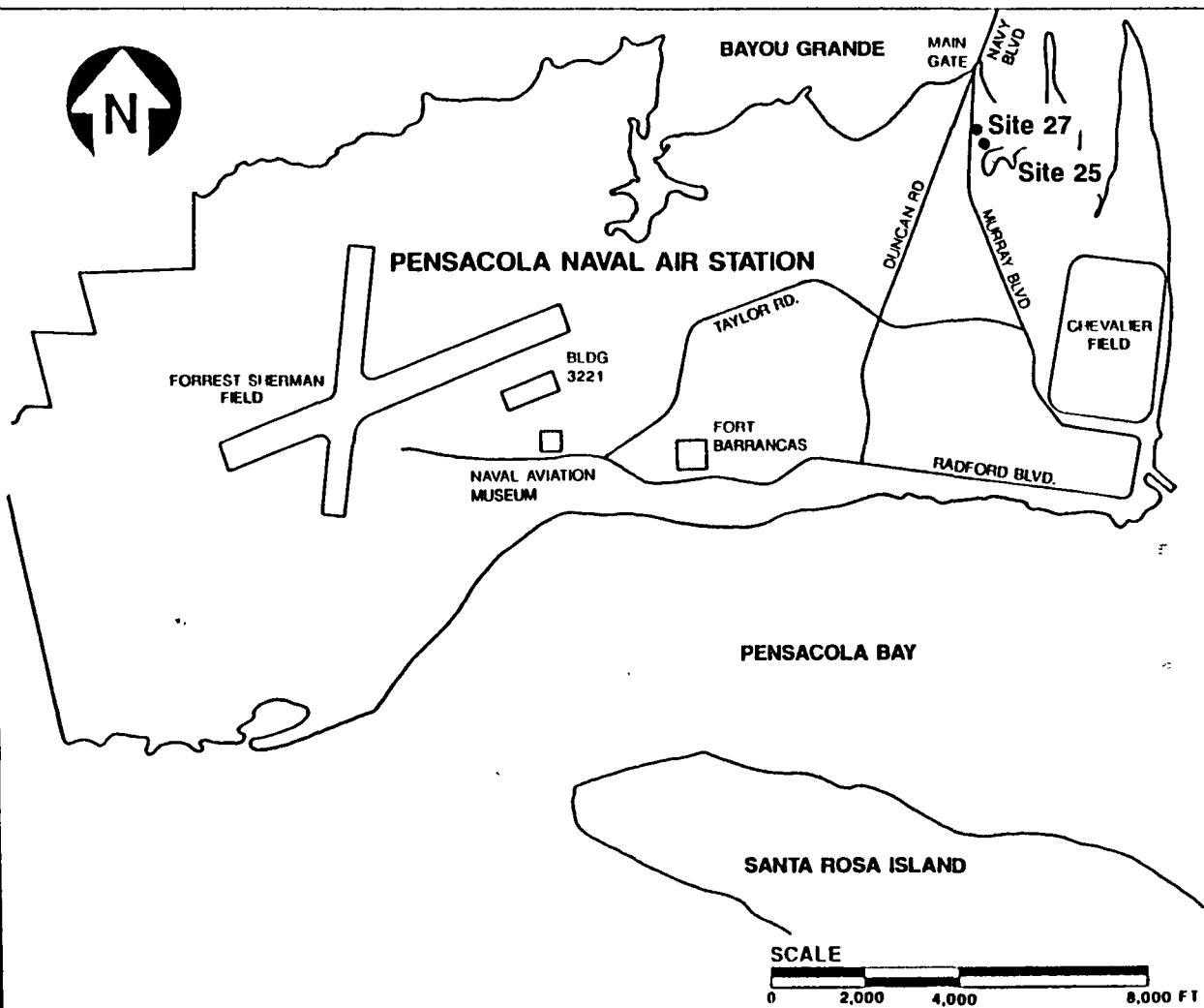
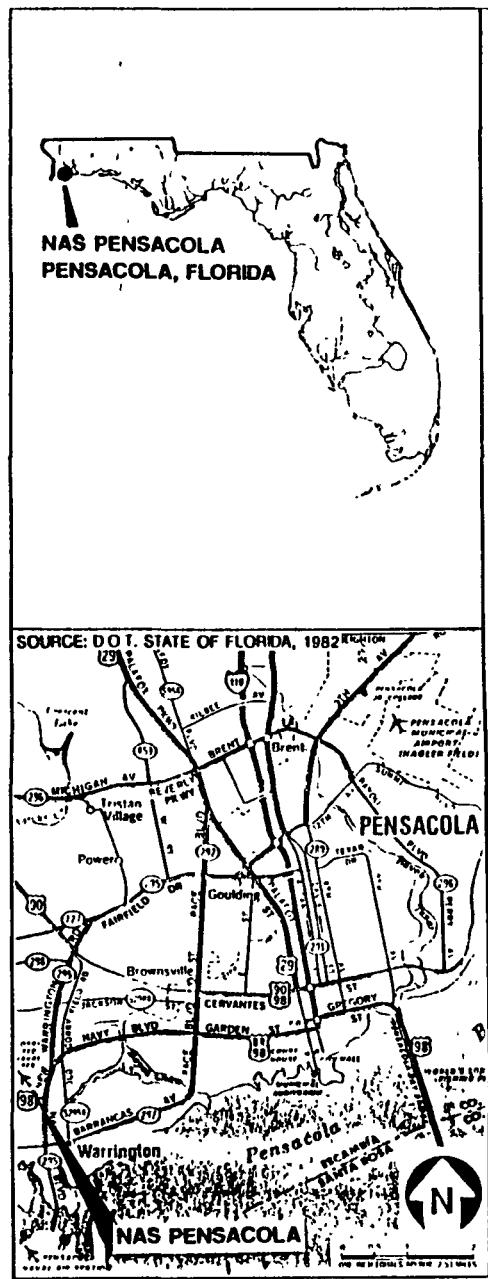
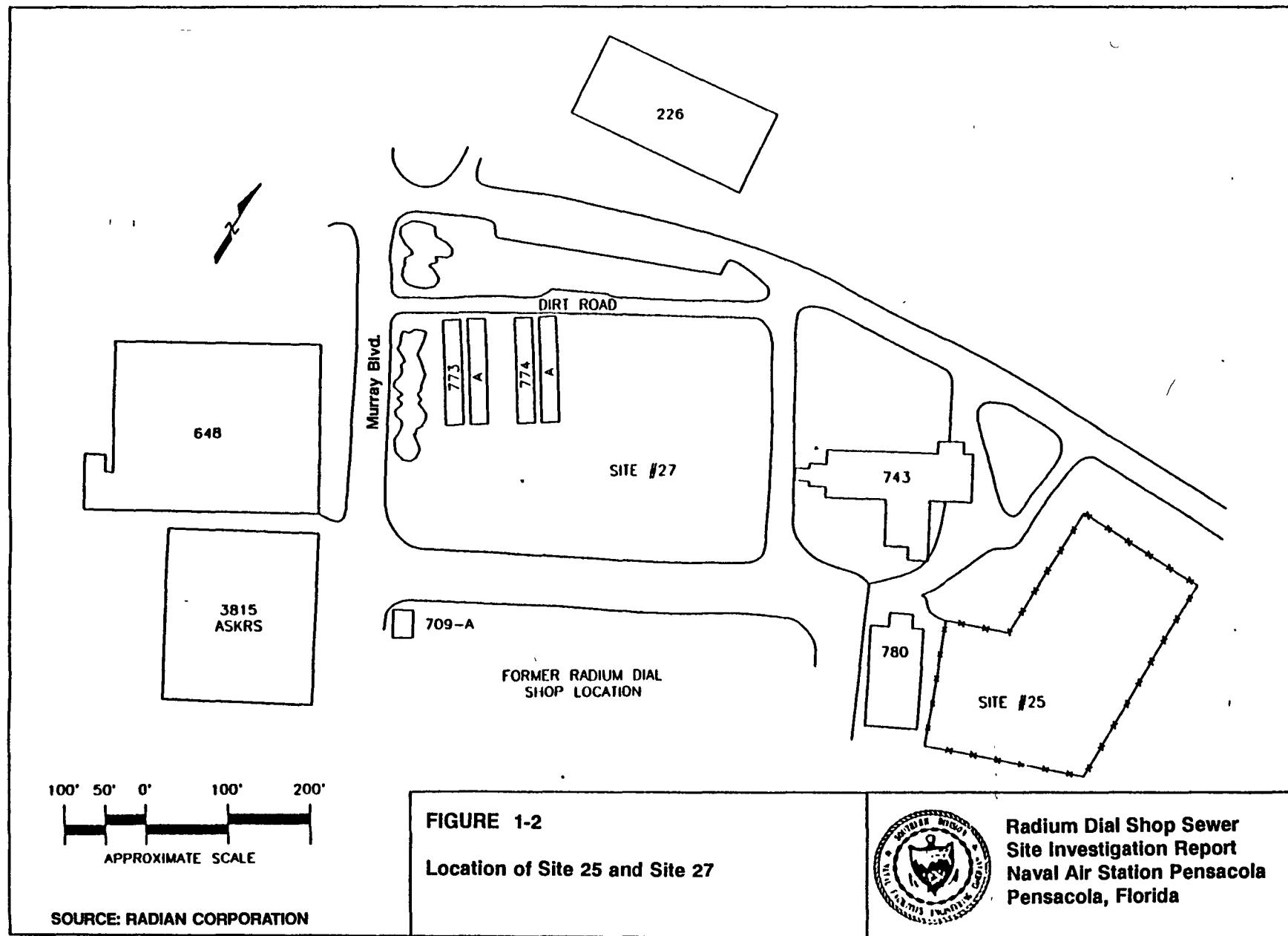


FIGURE 1-1
FACILITY LOCATION MAP



Radium Dial Shop Sewer
Site Investigation Report
Naval Air Station Pensacola
Pensacola, Florida



2.0 SITE INVESTIGATION

The Site Investigation was conducted at Sites 25 and 27 between August 31 and September 2, 1992. The Sampling and Analysis Plan (SAP), dated August, 1992, was prepared by ABB-ES. All of the SAP procedures were consistent with the guidelines outlined in the U.S. Environmental Protection Agency (USEPA) Region IV Standard Operating Procedures (SOPs) and Quality Assurance (QA) Manual (USEPA, 1991) and the Naval Energy and Environmental Support Activity (NEESA) QA Plan (NEESA, 1988). Analytical techniques and data quality objectives (DQOs) used for the investigation were chosen according to the NEESA QA Plan (NEESA, 1988).

2.1 SOIL SAMPLING. A total of 32 soil samples were collected during the site investigation. A breakdown of the total number of samples collected from each location is as follows:

- 10 soil samples from five sample locations at Site 25,
- 20 soil samples from ten sample locations at Site 27, and
- 2 soil samples from one background sampling location near the north entrance of NAS Pensacola.

Sampling locations for Sites 25 and 27 and background are presented in Figures 2-1, 2-2, and 2-3. Soil samples were collected using a 12-inch long stainless steel hand auger bucket with extensions. The auger borings were advanced to the top of each sampling interval, the auger bucket was replaced with a decontaminated bucket (to prevent cross-contamination) and the soil sample was collected.

Soil from the hand auger bucket was removed by a stainless steel spoon and placed in a glass bowl where it was mixed thoroughly (to homogenize the sample) prior to being placed in the sample jars.

Soil samples from each location were analyzed for TAL-CIP-CLP metals, TCLP metals and TCL-COP-CLP-SVOCs (only the two samples from location 27-4) in accordance with NEESA Level C DQOs. Results of these analyses are discussed in Section 4.0.

Sufficient decontaminated sampling equipment to last for at least one day of sampling was mobilized to NAS Pensacola (to avoid decontamination between sample collection). Equipment was decontaminated at the end of each sampling day according to USEPA Region IV SOPs.

2.2 SAMPLE IDENTIFICATION. Identification for each sample consisted of five parts which appear in the following order [e.g., PEN-25-SS-04A (1.5-2)].

1. The prefix PEN (PEN for Pensacola),
2. the Site number (25 or 27),
3. sample type (SS for surface soil, FB for field blank, and RB for rinsate blank),
4. the sample number (04) and a suffix for field QC designation:

A	Field Replicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate

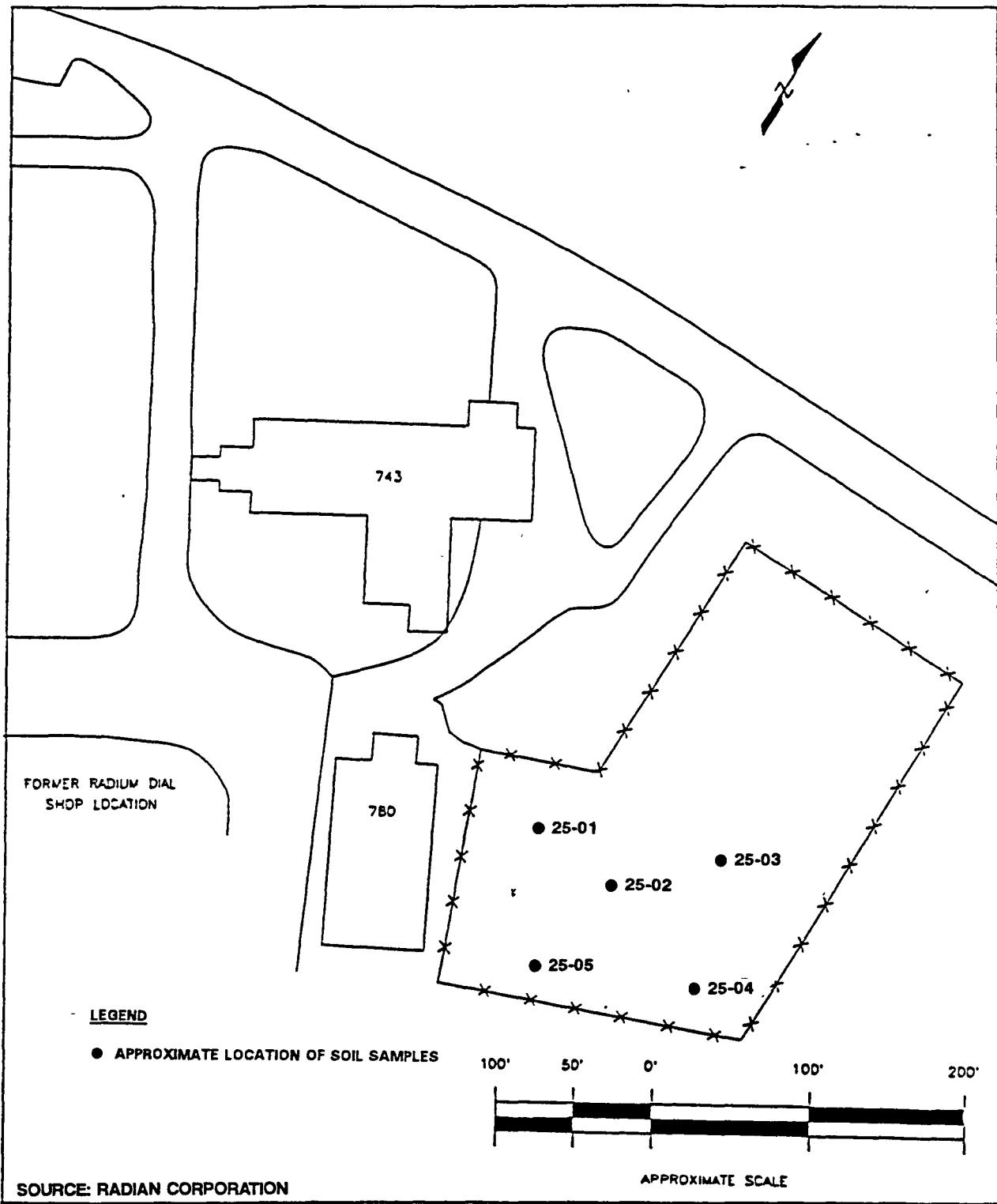
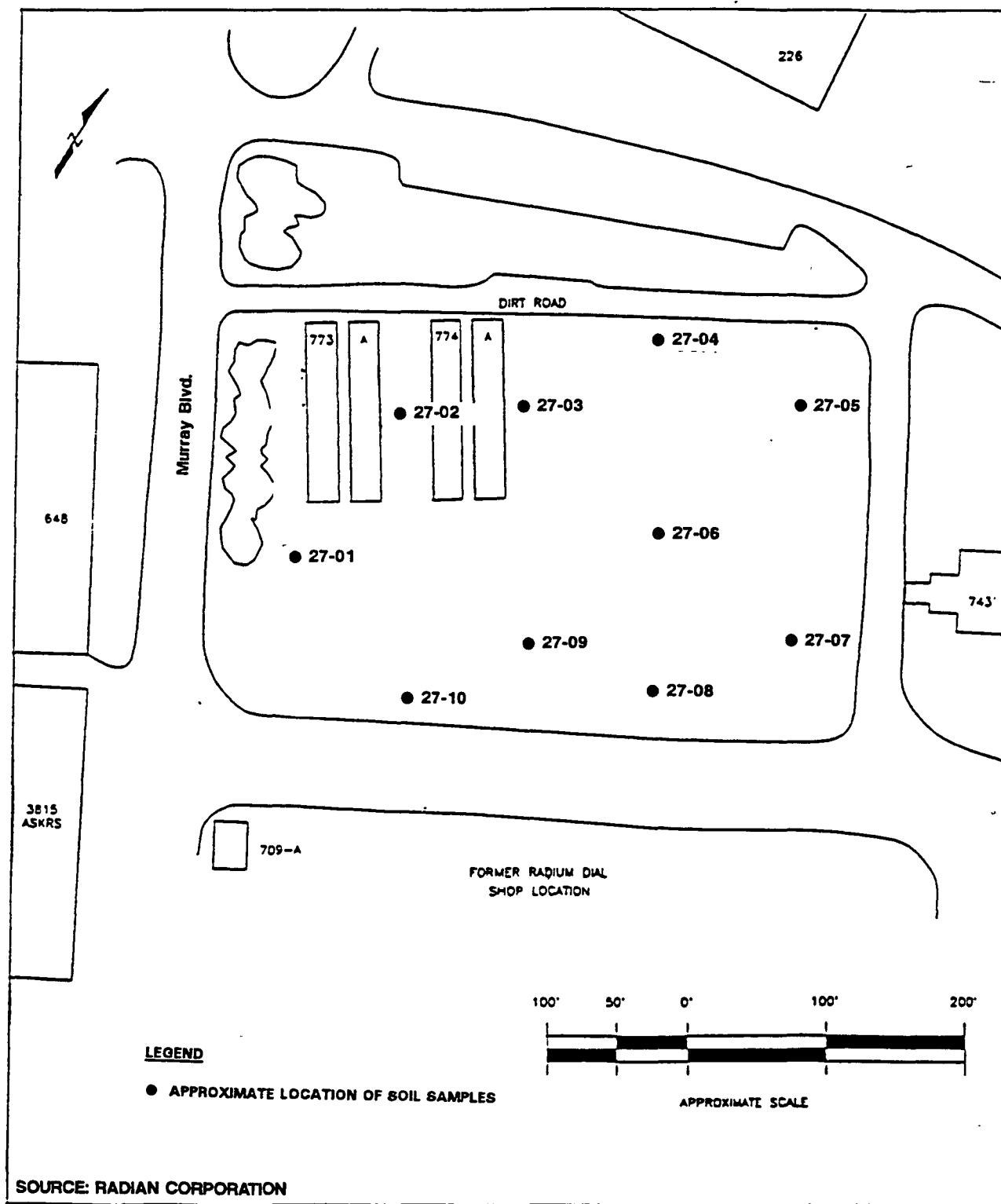


FIGURE 2-1
Location of Soil Samples at Site 25

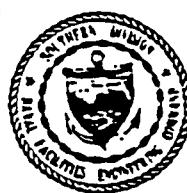


Radium Dial Shop Sewer
Site Investigation Report
Naval Air Station Pensacola
Pensacola, Florida

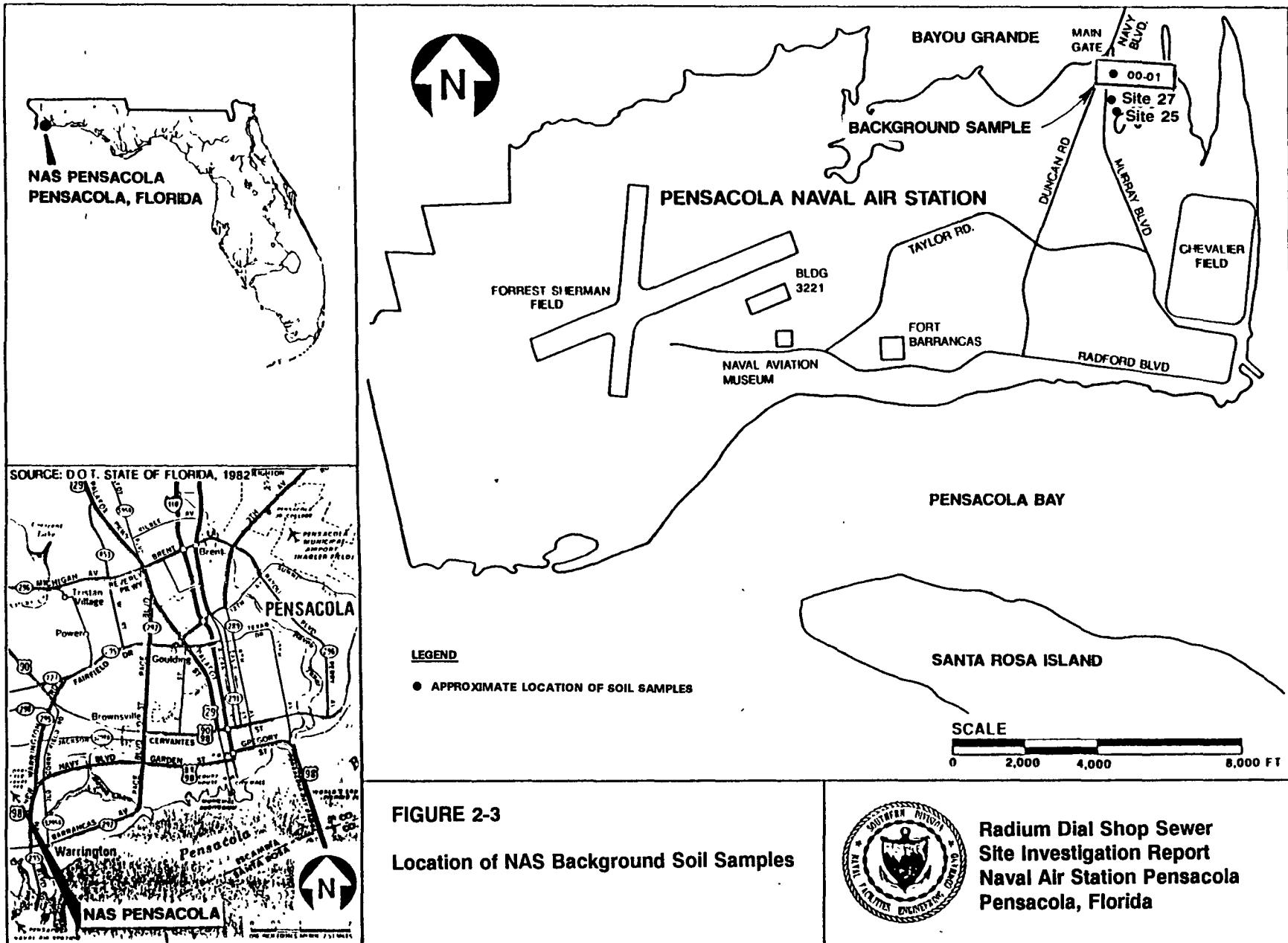


SOURCE: RADIAN CORPORATION

FIGURE 2-2
Location of Soil Samples at Site 27



**Radium Dial Shop Sewer
Site Investigation Report
Naval Air Station Pensacola
Pensacola, Florida**



5. the sample collection interval (1.5 to 2) in parenthesis expressed in feet bls units.

A complete list of sample identifications for samples collected during the site investigation is presented in Section 4.1.

2.3 CHAIN OF CUSTODY (COC). To establish the documentation necessary to trace sample possession from time of collection to time of analysis, chain of custody (COC) records were maintained throughout the investigative process. Completed COCs accompanied every sample shipping container. Each COC form was filled out in black waterproof ink.

The COC process was initiated upon sample collection. The field sampler that signed the COC was responsible for the samples until they were transferred to the custody of the subcontracted laboratory. As sample custody was transferred, the persons relinquishing and receiving the samples signed, dated, and noted the time on the form. Each COC form includes the identification of the samples in the shipping container, the signature of the sample collector, the date and time of the sample media, the number and type of containers included for each sample, requested analytical methods, signatures of persons in custody, and dates and times of possession.

COC forms were sealed in plastic bags and placed inside the shipping containers. The original COC forms accompanied the sample shipment to the laboratory. Upon receipt at the analytical laboratory, the laboratory sample custodian checked the condition of the samples. Copies of the COCs were returned with the analytical results from the laboratory.

2.4 SAMPLE HANDLING AND SHIPPING PROCEDURES. Soil samples labelled with sample identification date and time of collection were placed into coolers with ice packs and cooled to approximately 4 °C to minimize bacterial action. Packing material (bubble wrap) was placed around each sample container to prevent breakage during sample transporting. All completed COC forms were placed inside plastic bags, sealed and placed inside the shipping coolers. Each shipping cooler was closed and taped shut with strapping tape, and custody seals signed by the sample custodian were placed on the lid of each cooler to ensure that the coolers and samples were not tampered with during the shipment process. All of the samples were shipped to WADSWORTH/ALERT Laboratories, Canton, Ohio for analysis.

2.5 FIELD QUALITY CONTROL SAMPLES. Field Quality Control (QC) samples were collected to assess precision and accuracy of sample collection. Field QC samples collected during the investigation include field blanks, equipment rinsate blanks, and field duplicates. Preservative (HNO_3 to a pH < 2) was added to water samples collected for TAL-CIP-CLP-metals.

Field blanks were collected from the decontamination water source. The field blank was analyzed for TAL-CIP-CLP-metals and TCL-COP-CLP-SVOCs.

Equipment rinsate blanks were collected by pouring organic-free water over decontaminated equipment. A total of four equipment rinsate blanks were collected during the soil sampling event.

Field duplicates were collected by homogenizing one soil sample and then splitting that sample into two parts. Each sample was placed into its appropriate container and treated in the same manner as the other soil samples. A total of three field duplicate samples (at a frequency of 10% of the number of environmental soil samples) were collected.

3.0 QUALITY ASSURANCE PROGRAM AND DATA QUALITY ASSESSMENT

3.1 SAMPLE HANDLING, DELIVERY, AND CHAIN OF CUSTODY. Collection of soil and water samples was performed in accordance with the procedures outlined in SOP Region IV US EPA Quality Assurance Manual of February 1991. All the samples were collected in a single event between August 31, 1992 to September 2, 1992.

Preserved bottles were used to sample water for field quality control for inorganics, and pH was verified and maintained below 2 by addition of analytical grade 10 percent nitric acid. All samples were sent by overnight courier, under chain-of-custody, to WADSWORTH/ALERT Laboratories (WAL) in Canton, Ohio, for analysis. Upon arrival at WAL, the chain-of-custody form was signed by WAL personnel and the samples were accepted for analysis.

Review of field notebooks and chain-of-custody forms did not indicate any non-conformance relative to sample handling. Data precision, accuracy, representativeness, completeness and comparability were assessed by the use of field and laboratory quality control samples. Results of analysis are discussed in the following paragraphs.

3.2 FIELD QUALITY CONTROL ASSESSMENT. Table 3-1 presents the field quality control samples collected for analysis. These included field duplicates, equipment rinsate blanks and field blanks. All field quality control samples were collected in conformance with the requirements of the USEPA, NEESA, and the FDER-approved ABB Quality Assurance Plan and the June 1988 NEESA Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA Document 20.2-047B).

QC sampling frequency and analysis results are also presented in Table 3-1. Data review indicated that the sampling program met all the field QC criteria for soils.

3.3 LABORATORY QUALITY CONTROL ASSESSMENT. Analytical results presented in Appendix A were evaluated relative to meeting NEESA Level C quality control criteria. These criteria are described in section 7.3.2 of NEESA (1988) document 20.2-047B.

Data review indicated that the laboratory met all analytical QC criteria for metals and SVOCs analysis.

3.4 DATA ASSESSMENT. The quality and completeness of sampling data generated during the field program met the established Navy field QC criteria. Each of the data assessment parameters: precision, accuracy, representativeness, completeness and comparability are assessed based on the laboratory data validation and the field quality control assessment results.

3.4.1 Precision Precision measures the reproducibility of measurements under a given set of conditions. The overall precision of measurement of data is a mixture of sampling and analytical factors.

Table 3-1
Field Quality Control Sample Results

Site Investigation Report
Radium Dial Shop Sewer Site, NAS Pensacola, Florida

Sampling Event	Control Sample	TAL-CIP-Metals	TCL-COP-SVOCs
A. Soil samples at Site 25, Site 27 and NAS Background			
August 31, 1992	<u>Field blank</u> PEN-FB-SS-01	Below CRDL	Below CRDL
<u>Field duplicates</u> (original sample/duplicate)			
September 2, 1992	PEN-25-SS-05/5A	<u>Soil</u> (mg/kg)	
		Aluminum 1,700/1,500	
		Arsenic 0.8/ND	
		Iron 1,400/1,900	
		Lead 5/3.9	
		Manganese 16/10	
September 1, 1992	PEN-27-SS-04/04A	Aluminum 2,000/1,900	Below CRDL
		Barium 2.2/ND	
		Chromium 3.8/ND	
		Copper 1.6/ND	
		Iron 1,600/1,400	
		Lead 1.4/ND	
		Manganese 1.4/ND	
September 1, 1992	PEN-27-SS-09/09A	Aluminum 2,400/1,300	
		Arsenic 0.8/1.5	
		Chromium 3.3/ND	
		Copper 2/1.2	
		Iron 1,700/660	
		Lead 1.3/3.2	
		Manganese 5.8/2.8	
		Zinc 5.5/ND	
August 31, 1992	<u>Equipment rinsate blank</u> PEN-RB-SS-01	Below CRDL	Below CRDL
September 2, 1992	PEN-RB-SS-02	Below CRDL	Below CRDL

Notes: All inorganic soil concentrations are presented in milligrams per kilogram (mg/kg) and all other concentrations are represented as micrograms per liter ($\mu\text{g}/\text{L}$).

TAL = target analyte list.

CIP = caucus inorganic protocol.

TCL = target compound list.

COP = caucus organic protocol.

mg/kg = milligrams per kilogram.

CRDL = Contract Required Detection Limit.

ND = Not Detected (< CRDL).

SVOCs = semivolatile organic compounds.

The analytical measurements from the field replicates provide the data on the overall precision measurement. Field replicates have shown acceptable reproducibility for all the analytes.

3.4.2 Accuracy Accuracy measures the bias in a measurement system. It reflects the error induced in the determination of true value of the concentration in a given matrix. The source of error includes: sampling process, field contamination, preservation, handling, sample matrix, sample preparation and analysis techniques.

Field accuracy was checked with one field blank and two equipment rinsate blanks. No contamination was detected above the contract required detection limit (CRDL) in either the field blank or equipment rinsate blanks.

3.4.3 Representativeness Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness can be assessed by the following factors:

- Rationale used for selecting sampling locations and sampling techniques.
- Relative Percentage Difference (% RPD) in the analysis results of field samples collected from the same location.
- Potential bias due to contamination during collection and transportation of samples (i.e., a review of field blank, rinsate blank results).

Review of these factors (see Table 3-1) indicates that the data is of acceptable representativeness for the present investigation.

3.4.4 Completeness Completeness is defined as the percentage of measurements made which are judged to be valid measurements. None of the sample analysis results were judged invalid. Hence the data shows 100 % completeness.

3.4.5 Comparability Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Comparability of analysis results is assessed by the following factors:

- Consistency in the techniques used for sampling, transportation, and analysis.
- Knowledge of other PARCC parameters for the data set.

All the samples were collected using the US EPA Region IV SOPs and analyzed according to CLP protocol, hence the data is of comparable nature.

4.0 FINDINGS

4.1 ANALYSIS OF RESULTS. Data evaluation did not indicate that any soil samples collected from Sites 25 and 27 could be classified as hazardous based on RCRA hazardous waste criteria.

4.1.1 Site 25 Table 4-1 presents analytical results for TAL metals that were detected above the CRDLs. The analytical results indicate that none of the shallow (0 to 5 feet bls) soils could be classified as hazardous based on RCRA hazardous waste criteria.

Also, none of the soil sample TCLP analytical results exceed the RCRA TCLP regulatory levels.

However, several metals were detected at concentrations equal to or slightly greater than background soil concentrations (see Appendix A). There are only a few metals which were detected at concentrations greater than two times the background soil concentrations: cadmium (1.9 mg/kg in one surface sample), lead (56 mg/kg in one surface sample), manganese (19 mg/kg in one surface sample), and zinc (38 and 66 mg/kg respectively in two surface samples).

4.1.2 Site 27 Table 4-2 presents analysis results for TAL metals that were detected above the CRDLs. The analytical results indicate that none of the shallow (0 to 5 feet bls) soils could be classified as hazardous, based on RCRA hazardous waste criteria.

Also, none of the soil sample TCLP analytical results exceed the RCRA TCLP regulatory levels.

However, several metals were detected at concentrations equal to or slightly greater than background soil concentrations.

4.2 SUMMARY AND CONCLUSIONS. The findings of the site investigation, based on the results of the soil sampling and analysis at NAS Pensacola can be summarized as follows.

- No TCLP concentrations exceeded the regulatory levels for RCRA TCLP Metals.
- Analysis for TCL-SVOCs (at two samples from location 27-4 at Site 27) did not indicate the presence of di-n-octylphthalate that was detected and reported as a laboratory contaminant during the previous Site Investigation.

The following conclusion may be drawn from the Site Investigation at Sites 25 and 27 at NAS Pensacola:

- Based on the RCRA hazardous waste criteria, the results of the TCLP metals analysis do not indicate that any of the shallow soils (0 to 5 feet bls) could be classified as hazardous if they were to be removed during excavation for construction of the proposed Cold Storage Facility.

Table 4-1
Results of Analysis for Soil Samples at Site 25
TAL-CIP-CLP-Metals

Site Investigation Report
 Radium Dial Shop Sewer Site, NAS Pensacola, Florida

Sample ID	PEN-25-SS-01		PEN-25-SS-02		PEN-25-SS-03		PEN-25-SS-04		PEN-25-SS-05		PEN-25-SS-05A
Depth (ft bbls)	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')
Aluminum (200)	1,700	1,800	1,700	1,600	1,400	1,800	2,400	1,600	1,800	1,700	1,500
Antimony (60)	ND	ND	ND								
Arsenic (10)	ND	ND	ND								
Barium (200)	ND	ND	ND								
Beryllium (5)	ND	ND	ND								
Cadmium (5)	ND	ND	ND								
Calcium (5000)	ND	ND	ND								
Chromium (10)	ND	ND	ND								
Cobalt (50)	ND	ND	ND								
Copper (25)	ND	ND	ND								
Iron (100)	1,400	1,400	1,500	1,400	1,400	1,400	2,400	1,300	1,500	1,900	1,400
Lead (3)	ND	ND	14	3	50	4.8	56	ND	ND	3.9	5.0
Magnesium (5000)	ND	ND	ND								
Manganese (15)	ND	ND	ND	ND	ND	ND	19	ND	16	ND	ND
Mercury (0.2)	ND	ND	ND								
Nickel (40)	ND	ND	ND								
Potassium (5000)	ND	ND	ND								
Selenium (5)	ND	ND	ND								
Silver (10)	ND	ND	ND								
Sodium (5000)	ND	ND	ND								
Thallium (10)	ND	ND	ND								
Vanadium (50)	ND	ND	ND								
Zinc (20)	ND	ND	ND	ND	66	ND	79	ND	38	ND	ND

Notes: All the concentrations are expressed in milligrams per kilogram (mg/kg).

The number in parentheses adjacent to the chemical identification is CRDL in mg/kg.

ND = Not Detected (< Contract Required Detection Limit [CRDL]).

Table 4-2
Results of Analysis for Soil Samples at Site 27
TAL-CIP-CLP-Metals

Site Investigation Report
 Radium Dial Shop Sewer Site, NAS Pensacola, Florida

Sample ID	PEN-27-SS-01		PEN-27-SS-02		PEN-27-SS-03		PEN-27-SS-04		PEN-27-SS-04A	PEN-27-SS-05	
Depth (ft bls)	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')
Aluminum (200)	14,000	2,600	6,400	2,400	2,000	2,300	3,000	2,000	ND	17	2,200
Antimony (60)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium (200)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beryllium (5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium (5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (10)	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt (50)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper (25)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron (100)	9,500	1,700	3,700	1,600	1,300	1,500	2,000	1,600	5.2	1,400	1,600
Lead (3)	ND	ND	3.8	ND	6.2	ND	3.1	ND	ND	ND	ND
Magnesium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese (15)	20	ND	16	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (0.2)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (40)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium (50)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc (20)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See notes at end of table.

Table 4-2 (Continued)
Results of Analysis for Soil Samples at Site 27
TAL-CIP-CLP-Metals

Radium Dial Shop Sewer Site Investigation Report
 NAS Pensacola, Florida

Sample ID	PEN-27-SS-06		PEN-27-SS-07		PEN-27-SS-08		PEN-27-SS-09		PEN-27-SS-09A	PEN-27-SS-10	
Depth (ft bsl)	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')	(0.5'-1.5') · (4.0'-5.0')	(4.0'-5.0')	(4.0'-5.0')	(0.5'-1.5')	(4.0'-5.0')
Aluminum (200)	4,400	1,800	2,100	2,100	2,900	2,100	1,600	2,400	1,300	3,800	3,500
Antimony (60)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium (200)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beryllium (5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium (5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt (50)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper (25)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron (100)	2,800	1,500	1,200	1,500	2,000	1,600	740	1,700	660	2,600	2,200
Lead (3)	ND	ND	7.1	ND	6.8	ND	3.6	ND	3.2	11	ND
Magnesium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese (15)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (0.2)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (40)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium (5000)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium (10)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium (50)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc (20)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes: All the concentrations are expressed in milligrams per liter (mg/l).

ND = Not Detected (< contract required detection limit [CRDL]), CRDL presented in parenthesis next to the analyte.

Appendix A
Laboratory Analytical Results

BACKGROUND SAMPLES
TAL METALS

Lab Sample Number	A21010054-001	A21010054-002
QC Designation	Background	Background
ABB-ES Sample Number	PEN-00-SS-01 (.5-1.5')	PEN-00-SS-01 (4'-5')
DEPTH	.5-1.5'	4'-5'
Date Sampled	8/31/92	8/31/92
Date Analyzed	9/08/92	9/08/92
Units	mg/kg	mg/kg
Compound (TAL Metals)		
* *--* = Not Applicable/None		
ALUMINUM	1,000	2,400
ANTIMONY	31	U
ARSENIC	0.5	U
BARIUM	5.9	U
BERYLLIUM	0.5	U
CADMIUM	1.0	U
CALCIUM	540	U
CHROMIUM	4.2	U
COBALT	5.2	U
COPPER	3.0	U
IRON	990	
LEAD	21	
MAGNESIUM	520	U
MANGANESE	7.8	U
MERCURY	0.1	U
NICKEL	4.1	U
POTASSIUM	520	U
SELENIUM	0.5	U
SILVER	1.0	U
SODIUM	520	U
THALLIUM	1.0	U
VANADIUM	5.2	U
ZINC	7.3	U

SITE 25

TAL METALS

Lab Sample Number	A21030028-005	A21030028-006	A21030028-002	A21030028-003	A21030028-001	A21030028-004
QC Designation	PEN-25-SS-01	PEN-25-SS-01	PEN-25-SS-02	PEN-25-SS-02	PEN-25-SS-03	PEN-25-SS-03
ABB-ES Sample Number	(0.5-1.5)	(4-5)	(0.5-1.5)	(4-5)	(0.5-1.5)	(4-5)
Depth (Ft. BLS)	9/02/92	9/02/92	9/02/92	9/02/92	9/02/92	9/02/92
Date Sampled	9/04/92	9/04/92	9/04/92	9/04/92	9/04/92	9/04/92
Date Analyzed	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Units						
COMPOUND(TAL METALS)						
* * * * = Not Applicable/None						
ALUMINUM	1700	1800	1700	1600	1400	1800
ANTIMONY	31 U	32 U	31 U	32 U	32 U	32 U
ARSENIC	1.5 U	0.5 U	1.4 U	0.5 U	7.8 U	0.6 U
BARIUM	1.5 U	2.3 U	15 U	1.9 U	18 U	2.3 U
BERYLLIUM	0.5 U					
CADMIUM	1.0 U	1.0 U	10 U	1.0 U	1.9 U	1.0 U
CALCIUM	520 U	530 U	520 U	530 U	530 U	530 U
CHROMIUM	3.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.7 U
COBALT	5.2 U	5.3 U	5.2 U	5.3 U	5.3 U	5.3 U
COPPER	1.1 U	1.0 U	1.7 U	1.3 U	12 U	1.2 U
IRON	1400	1400	1500	1400	1400	1400
LEAD	1.4 U	0.9 U	14	30 U	50	48
MAGNESIUM	520 U	530 U	520 U	530 U	530 U	530 U
MANGANESE	4.1 U	4.7 U	8.4 U	5.5 U	14 U	5.2 U
MERCURY	0.1 U					
NICKEL	4.1 U	4.2 U				
POTASSIUM	520 U	530 U	520 U	530 U	530 U	530 U
SELENIUM	0.5 U					
SILVER	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U
SODIUM	520 U	530 U	520 U	530 U	530 U	530 U
THALLIUM	1.0 U					
VANADIUM	5.2 U	5.3 U	5.2 U	5.3 U	5.3 U	5.3 U
ZINC	7.3 U	8.1 U	13 U	13 U	66	7.5 U

Lab Sample Number	A21030028-007	A21030028-009	A21030028-008	A21030028-010	A21030028-011
QC Designation	++	--	++	++	Duplicate Sample
ABB-ES Sample Number	PEN-25-SS-04	PEN-25-SS-04	PEN-25-SS-05	PEN-25-SS-05	PEN-25-SS-05A
Depth (Ft. BLS)	(0.5 - 1.5)	(4 - 5)	(0.5 - 1.5)	(4 - 5)	
Date Sampled	9/02/92	9/02/92	9/02/92	9/02/92	9/02/92
Date Analyzed	9/04/92	9/04/92	9/04/92	9/04/92	9/04/92
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
COMPOUND(TAL METALS)					
* " -- " = Not Applicable/Nt					
ALUMINUM	2400	1600	1800	1700	1500
ANTIMONY	32 U	32 U	31 U	32 U	32 U
ARSENIC	1.4 U	0.5 U	1.9 U	0.5 U	0.8 U
BARIUM	12 U	2.1 U	5.5 U	2.9 U	2.4 U
BERYLLIUM	0.5 U				
CADMUM	1.0 U				
CALCIUM	530 U	530 U	520 U	530 U	530 U
CHROMIUM	5.2 U	2.1 U	2.9 U	2.5 U	2.1 U
COBALT	5.3 U	5.3 U	5.2 U	5.3 U	5.3 U
COPPER	12 U	10 U	1.1 U	1.4 U	1.0 U
IRON	2400	1300	1500	1900	1400
LEAD	56	17 U	29 U	39	50
MAGNESIUM	530 U	530 U	520 U	530 U	530 U
MANGANESE	19 U	4.1 U	16	7.6 U	4.9 U
MERCURY	0.1 U				
NICKEL	4.2 U	4.2 U	4.1 U	4.2 U	4.2 U
POTASSIUM	530 U	530 U	520 U	530 U	530 U
SELENIUM	0.005 U	0.5 U	0.5 U	0.5 U	0.5 U
SILVER	10 U	1.0 U	1.0 U	1.0 U	1.0 U
SODIUM	530 U	530 U	520 U	530 U	530 U
THALLIUM	1.0 U				
VANADIUM	5.3 U	5.3 U	5.2 U	5.3 U	5.3 U
ZINC	79	7.2 U	38	16 U	10 U

SITE 25

TCLP METALS

Lab Sample Number	AZI030028-005		AZI030028-006		AZI030028-002	
QC Designation	--		--		--	
ABB-ES Sample Number	PEN-25-SS-01		PEN-25-SS-01		PEN-25-SS-02	
DEPTH (FT.BLS)	(0.5-1.5)		(4-5)		(0.5-1.5)	
Date Sampled	9/02/92		9/02/92		9/02/92	
Date Analyzed	9/05/92		9/05/92		9/05/92	
Units	mg/L		mg/L		mg/L	
Compound (TCLP Metals)						
* --- = Not Applicable/None						
ARSENIC	0.5	U	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U	1.6	
CADMIUM	0.1	U	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U	0.1	U
LEAD	0.1	U	0.1	U	0.1	U
MERCURY	0.02	U	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U	0.3	U
SILVER	0.1	U	0.1	U	0.1	U

Lab Sample Number	A21030028~003	A21030028~001	A21030028~004			
QC Designation	---	---	---			
ABB-ES Sample Number	PEN-25-SS-02	PEN-25-SS-03	PEN-25-SS-03			
DEPTH (FT/BLS)	(4-5)	(0.5-1.5)	(4-5)			
Date Sampled	9/02/92	9/02/92	9/02/92			
Date Analyzed	9/05/92	9/05/92	9/05/92			
Units	mg/L	mg/L	mg/L			
Compound (TCLP Metals)						
* *--* = Not Applicable/None						
ARSENIC	0.5	U	0.5	U		
BARIUM	1.0	U	1.2	1.0	U	
CADMIUM	0.1	U	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U	0.1	U
LEAD	0.1	U	0.2		0.1	
MERCURY	0.02	U	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U	0.3	U
SILVER	0.1	U	0.1	U	0.1	U

Lab Sample Number	A2I030028-007	A2I030028-009	A2I030028-008	
QC Designation	---	---	---	
ABB-ES Sample Number	PEN-25-SS-04	PEN-25-SS-04	PEN-25-SS-05	
DEPTH (FT.BLS)	(0.5-1.5)	(4-5)	(0.5-1.5)	
Date Sampled	9/02/92	9/02/92	9/02/92	
Date Analyzed	9/05/92	9/05/92	9/05/92	
Units	mg/L	mg/L	mg/L	
Compound (TCLP Metals)				
* --- * = Not Applicable/None				
ARSENIC	0.5	U	0.5	U
BARIUM	1.3		1.0	1.3
CADMIUM	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U
LEAD	0.2		0.1	U
MERCURY	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U
SILVER	0.1	U	0.1	U

Lab Sample Number	A21030028-010	A21030028-010
QC Designation	--	Duplicate Sample
ABB-ES Sample Number	PEN-25-SS-05	PBN-25-SS-05A
DEPTH (FT.BLS)	(4-5)	--
Date Sampled	9/02/92	9/02/92
Date Analyzed	9/05/92	9/05/92
Units	mg/L	mg/L
Compound (TCLP Metals)		
* *--* = Not Applicable/None		
ARSENIC	0.5	U
BARIUM	1.0	U
CADMIUM	0.1	U
CHROMIUM	0.1	U
LEAD	0.1	U
MERCURY	0.02	U
SELENIUM	0.3	U
SILVER	0.1	U

SITE 27

TCLP METALS

Lab Sample Number	A21020022-001	A21020022-002	A21020022-003	A21020022-004
QC Designation	--	--	--	--
ABB-ES Sample Number	PEN-27-SS-01 (.5-1.5')	PEN-27-SS-01(4'-5')	PEN-27-SS-02 (.5-1.5')	PEN-27-SS-02 (4'-5')
DEPTH (IN FEET BLS)	.5-1.5'	4'-5'	.5-1.4'	4-5'
Date Sampled	9/01/92	9/01/92	9/01/92	9/09/92
Date Analyzed	9/09/92	9/09/92	9/09/92	9/09/92
Units	mg/L	mg/L	mg/L	mg/L
Compound (TCLP Metals)				
* * = Not Applicable/None				
ARSENIC	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U
CADMIUM	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U
LEAD	0.1	U	0.1	U
MERCURY	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U
SILVER	0.1	U	0.1	U

Lab Sample Number	A21020022-005	A21020022-006	A21020022-007	
QC Designation				
ABB-ES Sample Number	PEN-27-SS-03 (.5~1.5')	PEN-27-SS-03 (4~5')	PCN-27-04 (.5~1.5')	
DEPTH (IN FEET BLS)	.5~5'	4~5'	.5~1.5	
Date Sampled	9/01/92	9/01/92	9/01/92	
Date Analyzed	9/09/92	9/09/92	9/09/92	
Units	mg/L	mg/L	mg/L	
Compound (TCLP Metals)				
* --- = Not Applicable/None				
ARSENIC	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U
CADMIUM	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U
LEAD	0.1	U	0.1	U
MERCURY	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U
SILVER	0.1	U	0.1	U

Lab Sample Number	A21020022-008		A21020022-011		A21020022-012	
QC Designation	--		--		--	
ABB-ES Sample Number	PEN-27-SS-04 (4'-5')		PEN-27-SS-05 (.5-1.5)		PEN-27-SS-05 (4'-5')	
DEPTH (IN FEET BLS)	4'-5'		.5-1.5'		4'-5'	
Date Sampled	9/01/92		9/01/92		9/01/92	
Date Analyzed	9/09/92		9/09/92		9/09/92	
Units	mg/L		mg/L		mg/L	
Compound (TCLP Metals)						
* * - * = Not Applicable/None						
ARSENIC	0.5	U	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U	1.0	U
CADMIUM	0.1	U	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U	0.1	U
LEAD	0.1	U	0.1	U	0.1	U
MERCURY	0.02	U	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U	0.3	U
SILVER	0.1	U	0.1	U	0.1	U

Lab Sample Number QC Designation	A21020022-013	A21020022-014	A21020022-015	
ABB-ES Sample Number	PEN-27-SS-06 (.5-1.5')	PEN-27-SS-06 (4'-5')	PEN-27-SS-07 (.5-1.5')	
DEPTH (IN FEET BLS)	.5-1.5'	4'-5'	.5-1.5'	
Date Sampled	9/01/92	9/01/92	9/01/92	
Date Analyzed	9/09/92	9/09/92	9/09/92	
Units	mg/L	mg/L	mg/L	
Compound (TCLP Metals)				
* " = Not Applicable/None				
ARSENIC	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U
CADMIUM	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U
LEAD	0.1	U	0.1	U
MERCURY	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U
SILVER	0.1	U	0.1	U

Lab Sample Number	A21020022-016	A21020022-017	A21020022-018	
QC Designation	---	---	---	
ABB-ES Sample Number	PEN-27-SS-07 (4'-5')	PEN-27-SS-08 (.5-1.5')	PEN-27-SS-08 (4'-5')	
DEPTH (IN FEET BLS)	4'-5'	.5-1.5'	4'-5'	
Date Sampled	9/01/92	9/01/92	9/01/92	
Date Analyzed	9/09/92	9/09/92	9/09/92	
Units	mg/L	mg/L	mg/L	
Compound (TCLP Metals)				
* " - " = Not Applicable/None				
ARSENIC	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U
CADMIUM	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U
LEAD	0.1	U	0.1	U
MERCURY	0.02	U	0.02	U
SELENIUM	0.3	U	0.3	U
SILVER	0.1	U	0.1	U

Lab Sample Number	A21020022-019		A21020022-021		A21020022-022		A21020022-23	
QC Designation	--		--		--		--	
DEPTH (IN FEET BLS)	,5~1.5'		4'~5'		.5~1.5'		4'~5'	
Date Sampled	9/01/92		9/01/92		9/01/92		9/01/92	
Date Analyzed	9/09/92		9/09/92		9/09/92		9/09/92	
Units	mg/L		mg/L		mg/L		mg/L	
Compound (TCLP Metals)								
* *--* = Not Applicable/None								
ARSENIC	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	1.0	U	1.0	U	1.0	U	1.0	U
CADMIUM	0.1	U	0.1	U	0.1	U	0.1	U
CHROMIUM	0.1	U	0.1	U	0.1	U	0.1	U
LEAD	0.1	U	0.1	U	0.11	U	0.1	U
MERCURY	0.02	U	0.02	U	0.02	U	0.02	U
SELENIUM	0.3	U	0.5	U	0.3	U	0.3	U
SILVER	0.1	U	0.1	U	0.1	U	0.1	U

SITE 27

TAL METALS

Lab Sample Number	A21020022-001	A21020022-002	A21020022-003	A21020022-004
QC Designation	---	---	---	---
ABB-ES Sample Number	PEN-27-SS-01 (0.5~1.5')	PEN-27-SS-01 (4~5')	PEN-27-SS-02 (.5~1.5')	PEN-27-SS-02 (4~5')
DEPTH	.5~1.5'	4~5'	.5~1.5'	4~5'
Date Sampled	9/01/92	9/01/92	9/01/92	9/01/92
Date Analyzed	9/09/92	9/09/92	9/09/92	9/09/92
Units	mg/kg	mg/kg	mg/kg	mg/kg
Compound (TAL Metals)				
* "----" = Not Applicable/None				
ALUMINUM	14,000	2,600	6,400	2,400
ANTIMONY	32	UJ	31	UJ
ARSENIC	2.1	U	0.5	U
BARIUM	4.3	U	2.5	U
BERYLLIUM	0.5	U	0.5	U
CADMIUM	1.0	U	1.0	U
CALCIUM	530	U	520	U
CHROMIUM	11		6.0	U
COBALT	5.3	U	5.2	U
COPPER	2.9	U	1.4	U
IRON	9,500	1,700	3,700	1,600
LEAD	2.6	U	1.1	U
MAGNESIUM	530	U	520	U
MANGANESE	20		5.6	U
MERCURY	0.1	U	0.1	U
NICKEL	4.2	U	4.2	U
POTASSIUM	530	U	520	U
SELENIUM	0.5	U	0.5	U
SILVER	1.0	U	1.0	U
SODIUM	530	U	520	U
THALLIUM	1.0	UJ	1.0	UJ
VANADIUM	23	U	5.2	U
ZINC	5.3	U	7.0	U

Lab Sample Number	A21020022-005	A21020022-006	A21020022-007	A21020022-008
QC Designation	--	--	--	--
ABB-ES Sample Number	PEN-27-SS-03 (.5-1.5')	PEN-27-SS-03 (4'-5')	PEN-27-SS-04 (.5-1.5')	PEN-27-SS-04 (4'-5')
DEPTH	.5-1.5'	4'-5'	.5-1.5'	4'-5'
Date Sampled	9/01/92	9/01/92	9/01/92	9/01/92
Date Analyzed	9/09/92	9/09/92	9/09/92	9/09/92
Units	mg/kg	mg/kg	ug/L	mg/kg
Compound (TAL Metals)				
* --- = Not Applicable/None				
ALUMINUM	2,000	2,300	3,000	2,000
ANTIMONY	31	UJ	31	UJ
ARSENIC	0.5	U	0.6	U
BARIUM	2.3	U	2.5	U
BERYLLIUM	0.5	U	0.6	U
CADMIUM	1.0	U	1.2	U
CALCIUM	520	U	600	U
CHROMIUM	3.0	U	2.4	U
COBALT	5.2	U	6.0	U
COPPER	1.8	U	1.2	U
IRON	1,300	1,500	2,000	1,600
LEAD	6.2	1.4	3.1	1.4
MAGNESIUM	520	U	600	U
MANGANESE	4.5	U	4.7	U
MERCURY	0.5	U	0.1	U
NICKEL	4.2	U	4.8	U
POTASSIUM	520	U	600	U
SELENIUM	0.5	U	0.6	U
SILVER	1.0	U	1.2	U
SODIUM	520	U	600	U
THALLIUM	1.2	UJ	1.0	UJ
VANADIUM	5.2	U	6.0	U
ZINC	5.2	U	6.0	U

Lab Sample Number	A21020022-009	A21020022-011	A21020022-012	A21020022-013
QC Designation	DUPLICATE	--	--	--
ABB-ES Sample Number	PEN-27-SS-04A	PEN-27-SS-05 (0.5-1.5')	PEN-27-SS-05 (4'-5')	PEN-27-SS-06 (.5-1.5')
DEPTH	4'-5'	.5-1.5'	4'-5'	.5-1.5'
Date Sampled	9/01/92	9/01/92	9/01/92	9/01/92
Date Analyzed	9/09/92	9/09/92	9/09/92	9/09/92
Units	mg/kg	mg/kg	mg/kg	mg/kg
Compound (TAL Metals)				
* " " = Not Applicable/None				
ALUMINUM	21 U	17 U	2,200	4,400
ANTIMONY	31 UJ	31 UJ	32 UJ	31 UJ
ARSENIC	0.6 U	0.1 U	0.5 U	0.9 U
BARIUM	1.0 U	2.4 U	2.5 U	3.4 U
BERYLLIUM	0.5 U	0.5 U	0.5 U	0.5 U
CADMIUM	1.0 U	1.0 U	1.0 U	1.0 U
CALCIUM	520 U	520 U	530 U	520 U
CHROMIUM	2.1 U	2.4 U	2.2 U	4.5 U
COBALT	5.2 U	5.2 U	5.3 U	5.2 U
COPPER	1.0 U	1.0 U	1.0 U	1.2 U
IRON	5.2	1,400	1,600	2,800
LEAD	1.2 U	2.9 U	0.9 U	2.3 U
MAGNESIUM	520 U	520 U	530 U	520 U
MANGANESE	1.0 U	4.5 U	4.7 U	7.0 U
MERCURY	0.1 U	0.1 U	0.1 U	0.1 U
NICKEL	4.2 U	4.1 U	4.2 U	4.1 U
POTASSIUM	520 U	520 U	530 U	520 U
SELENIUM	0.5 U	0.5 U	0.5 U	0.5 U
SILVER	1.0 U	1.0 U	1.0 U	1.0 U
SODIUM	520 U	520 U	530 U	520 U
THALLIUM	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
VANADIUM	5.2 U	5.2 U	5.3 U	5.8 U
ZINC	5.2 U	5.2 U	5.3 U	9.8 U

Lab Sample Number	A21020022-014	A21020022-015	A21020022-016	A21020022-017
QC Designation				
ABB-ES Sample Number	PEN-27-SS-06 (4'-5')	PEN-27-SS-07 (.5'-1.5')	PEN-27-SS-07 (4'-5')	PEN-27-SS-08 (.5'-1.5')
DEPTH	.4'-5'	.5'-1.5'	.4'-5'	.5'-1.5'
Date Sampled	9/01/92	9/01/92	9/01/92	9/01/92
Date Analyzed	9/09/92	9/09/92	9/09/92	9/09/92
Units	mg/kg	mg/kg	mg/kg	mg/kg
Compound (TAL Metals)				
* * - = Not Applicable/None				
ALUMINUM	1,800	2,100	2,100	2,900
ANTIMONY	31	UJ	31	UJ
ARSENIC	0.5	U	0.5	U
BARIUM	2.3	U	1.8	U
BERYLLIUM	0.5	U	0.5	U
CADMUM	1.0	U	1.0	U
CALCIUM	520	U	520	U
CHROMIUM	2.1	U	2.0	U
COBALT	5.2	U	5.1	U
COPPER	1.0	U	8.6	U
IRON	1,500	1,200	1,500	2,000
LEAD	0.8	U	1.3	U
MAGNESIUM	520	U	520	U
MANGANESE	4.7	U	7.8	U
MERCURY	0.1	U	0.1	U
NICKEL	4.1	U	4.1	U
POTASSIUM	520	U	520	U
SELENIUM	0.5	U	0.5	U
SILVER	1.0	U	1.0	U
SODIUM	520	U	520	U
THALLIUM	1.0	UJ	1.0	UJ
VANADIUM	5.2	U	5.1	U
ZINC	5.2	U	5.7	U

Lab Sample Number	A21020022-018	A21020022-019	A21020022-020 Duplicate	A21020022-021
QC Designation	---	---	PEN-27-SS-09A (.5-1.5')	---
ABB-ES Sample Number	PEN-27-SS-08 (4'-5')	PEN-27-SS-09 (.5-1.5')	PEN-27-SS-09A (.5-1.5')	PEN-27-SS-09 (4'-5')
DEPTH	4'-5'	.5-1.5'	.5-1.5'	4'-5'
Date Sampled	9/01/92	9/01/92	9/01/92	9/01/92
Date Analyzed	9/09/92	9/09/92	9/09/92	9/09/92
Units	mg/kg	mg/kg	mg/kg	mg/kg
Compound (TAL Metals)				
* * - = Not Applicable/None				
ALUMINUM	2,100	1,600	1,300	2,400
ANTIMONY	31	UJ	31	UJ
ARSENIC	0.8	U	0.5	U
BARIUM	2.0	U	1.8	U
BERYLLIUM	0.5	U	.5	U
CADMIUM	1.0	U	1.0	U
CALCIUM	520	U	510	U
CHROMIUM	3.8	U	2.2	U
COBALT	5.2	U	5.1	U
COPPER	1.0	U	1.0	U
IRON	1,600	740	660	1,700
LEAD	1.4	U	3.6	U
MAGNESIUM	520	U	510	U
MANGANESE	4.4	U	3.3	U
MERCURY	0.1	U	0.1	U
NICKEL	4.2	U	4.1	U
POTASSIUM	520	U	510	U
SELENIUM	0.5	U	0.5	U
SILVER	1.0	U	1.0	U
SODIUM	520	U	510	U
THALLIUM	1.0	UJ	1.0	UJ
VANADIUM	5.2	U	5.1	U
ZINC	5.2	U	5.1	U

Lab Sample Number	A21020022-022	A21020022-023	A21020022-009	A21020022-009
QC Designation	---	---	MS	MSD
ABB-ES Sample Number	PEN-27-SS-10 (.5"-1.5")	PEN-27-SS-10 (4"-5")	PEN-27-SS-04MS	PEN-27-SS-04MSD
DEPTH	.5-1.5"	4"-5"	4"-5"	4"-5"
Date Sampled	9/01/92	9/01/92	9/01/92	9/01/92
Date Analyzed	9/09/92	9/08/92	9/09/92	9/09/92
Units	mg/kg	mg/kg	mg/kg	mg/kg
Compound (TAL Metals)				
* "----" = Not Applicable/None				
ALUMINUM	3,800	3,500	60573	61117
ANTIMONY	31	UJ	817	853
ARSENIC	2.3	U	58.7	62.2
BARIUM	3.4	U	914.0	944.0
BERYLLIUM	0.5	U	897	928
CADMUM	1.0	U	854	883
CALCIUM	520	U	47185	49239
CHROMIUM	5.0	U	896	927
COBALT	5.2	U	872	912
COPPER	2.4	U	884	917
IRON	2,600	2,200	55944	57654
LEAD	11	1.4	53.4	54.8
MAGNESIUM	520	U	44940	46734
MANGANESE	14	U	908	944
MERCURY	0.1	U	0.9 U	1 U
NICKEL	4.1	U	860	890
POTASSIUM	520	U	44706	46361
SELENIUM	0.5	U	53.4	55.3
SILVER	1.0	U	875	910
SODIUM	520	U	47249	48930
THALLIUM	1.0	UJ	41	46.1
VANADIUM	7.1	U	947	983
ZINC	7.1	U	887	902

SITE 27

SVOCs

Sample Number	A2I020022-007		A2I020022-008		A2I020022-009	
QC Designation	--		--		DUPLICATE	
ABB-ES Sample Number	PEN-27-SS-04		PEN-27-SS-04		PEN-27-SS-04A	
Depth (Ft. BLS)	(0.5-1.5)		(4-5)		(4-5)	
Date Sampled	9/01/92		9/01/92		9/01/92	
Data Analyzed	9/03/92		9/03/92		9/03/92	
Units	ug/Kg		ug/Kg		ug/Kg	
COMPOUND (8270)						
* "-" = Not Applicable/None						
DIBENZOFURAN	350	U	430	U	350	U
2,4-DINITROTOLUENE	350	U	430	U	350	U
DIETHYLPHthalATE	350	U	430	U	350	U
4-CHLOROPHENYL-PHENYLETHER	350	U	430	U	350	U
FLUORENE	350	U	430	U	350	U
4-NITROANILINE	1700	U	2100	U	1700	U
4,6-DINITRO-2-METHYLPHENOL	1700	U	2100	U	1700	U
N-NITROSODIPHENYLAMINE (1)	350	U	430	U	350	U
4-BROMOPHENYL-PHENYLETHER	350	U	430	U	350	U
HEXACHLOROBENZENE	350	U	430	U	350	U
PENTACHLOROPHENOL	1700	U	2100	U	1700	U
PHENANTHRENE	350	U	430	U	350	U
ANTHRACENE	350	U	430	U	350	U
DI-N-BUTYLPHthalATE	350	U	430	U	350	U
FLUORANTHENE	350	U	430	U	350	U
PYRENE	350	U	430	U	350	U
BUTYLBENZYLPHthalATE	350	U	430	U	350	U
3,3'-DICHLOROBENZIDINE	700	U	860	U	700	U
BENZO(a)ANTHRACENE	350	U	430	U	350	U
CHRYSENE	350	U	430	U	350	U
BIS(2-ETHYLHEXYL)PHthalATE	350	U	430	U	350	U
DI-N-OCTYLPHthalATE	350	U	430	U	350	U
BENZO(b)FLUORANTHENE	350	U	430	U	350	U
BENZO(k)FLUORANTHENE	350	U	430	U	350	U
BENZO(a)PYRENE	350	U	430	U	350	U
INDENO(1,2,3-cd)PYRENE	350	U	430	U	350	U
DIBENZ(a,h)ANTHRACENE	350	U	430	U	350	U
BENZO(g,h,i)PERYLENE	350	U	430	U	350	U
BENZOIC ACID	350	U	430	U	350	U
BENZYL ALCOHOL	350	U	430	U	350	U

(1) – Cannot be separated from Diphenylamine

A2I010054-003
Field Blank
PEN-FB-SS-01
8/31/92
9/01/92
ug/Kg

A2I020022-009
MS
PEN-27-SS-04MS
(4-5)
9/01/92
9/03/92
ug/Kg

A2I020022-009
MSD
PEN-27-SS-04MSD
(4-5)
9/01/92
9/03/92
ug/Kg

10	U	350	U	350	U
10	U	2600		2200	
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
50	U	1700	U	1700	U
50	U	1700	U	1700	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	3500	
50	U	3600		1700	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	3900		3700	
10	U	350	U	350	U
10	U	350	U	350	U
20	U	700	U	700	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	350	U	350	U
10	U	1700		1700	U
10	U	350	U	350	U

**FIELD QUALITY CONTROL
SAMPLES**

Lab Sample Number	A21010054-004	A21010054-003	A21020022-10	A21030028-012		
QC Designation	Rinsate Blank	Field Blank	Rinsate Blank	Rinsate Blank		
ABB-ES Sample Number	PEN-RB-SS-01	PEN-FB-SS-01	PEN-RB-SS-02	PEN-RB-SS-03		
DEPTH	--	--	--	--		
Date Sampled	8/31/92	8/31/92	9/01/92	9/02/92		
Date Analyzed	9/07/92	9/07/92	9/06/92	9/09/92		
Units	mg/kg	mg/kg	mg/kg	mg/kg		
Compound (TAL Metals)						
* " -- " = Not Applicable/None						
ALUMINUM	0.2	U	0.2	U	0.2	U
ANTIMONY	0.3	U	0.3	U	0.3	U
ARSENIC	0.005	U	0.005	U	0.005	U
BARIUM	0.01	U	0.01	U	0.01	U
BERYLLIUM	0.005	U	0.005	U	0.005	U
CADMIUM	0.01	U	0.01	U	0.01	U
CALCIUM	5.0	U	5.0	U	5.0	U
CHROMIUM	0.02	U	0.02	U	0.02	U
COBALT	0.05	U	0.05	U	0.05	U
COPPER	0.01	U	0.01	U	0.01	U
IRON	0.21	U	0.05	U	0.05	U
LEAD	0.003	U	0.003	U	0.003	U
MAGNESIUM	5.0	U	5.0	U	5.0	U
MANGANESE	0.01	U	0.01	U	0.01	U
MERCURY	0.0002	U	0.0002	U	0.0002	U
NICKEL	0.04	U	0.04	U	0.04	U
POTASSIUM	5.0	U	5.0	U	5.0	U
SELENIUM	0.005	U	0.005	U	0.005	U
SILVER	0.01	U	0.01	U	0.01	U
SODIUM	5.0	U	5.0	U	5.0	U
THALLIUM	0.01	U	0.01	U	0.01	U
VANADIUM	0.05	U	0.05	U	0.05	U
ZINC	0.05	U	0.05	U	0.05	U

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-01 (.5'-1.5') 9-2-92 1005

WO #: 87304

LAB #: A21030028-005

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-01 (4'-5') 9-2-92 1015

WO #: 87308

LAB #: A2I030028-006

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-02 (.5'-1.5') 9-2-92 1000

WO #: 87301

LAB #: A2I030028-002

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.60	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-02 (4'-5') 9-2-92 1010

WO #: 87302

LAB #: A21030028-003

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21030028-001 A

ND (NOT DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-03 (.5'-1.5') 9-2-92 1005

WO #: 87300

LAB #: A2I030028-001

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.20	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.22	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-03 (4'-5') 9-2-92 1015

WO #: 87303

LAB #: A2I030028-004

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.11	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-04 (.5'-1.5') 9-2-92 1035

WO #: 87310
 LAB #: A2I030028-007
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.30	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.22	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NON DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-04 (4'-5') 9-2-92 1045

WO #: 87316

LAB #: A21030028-009

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.00	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21030028-001 A

ND (NOT DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05 (.5'-1.5') 9-2-92 1040

WO #: 87314

LAB #: A2I030028-008

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.000
Barium	1.30	1.000	1.00	SW846 6010	9/05- 9/09/92	100.000
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.000
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.000
Lead	0.11	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.000
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.200

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05 (4'-5') 9-2-92 1050

WO #: 87320

LAB #: A2I030028-010

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.00	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NON DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05A 9-2-92 1050

WO #: 87323

LAB #: A21030028-011

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-01 (.5'-1.5') 9-2-92 1005

WO #: 87304
 LAB #: A21030028-005
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.000
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.000
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.000
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.000
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.000
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.200

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-01 (4'-5') 9-2-92 1015

WO #: 87308

LAB #: A2I030028-006

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-02 (.5'-1.5') 9-2-92 1000

WO #: 87301
 LAB #: A21030028-002
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.000
Barium	1.60	1.000	1.00	SW846 6010	9/05- 9/09/92	100.000
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.000
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.000
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.000
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.200

\

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CP (Bias Correction Factor)

Bias Correction Factor determined on sample: A21030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-02 (4'-5') 9-2-92 1010

WO #: 87302
 LAB #: A2I030028-003
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CR (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-03 (.5'-1.5') 9-2-92 1005

WO #: 87300
 LAB #: A2I030028-001
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

- - - - - TOXICITY CHARACTERISTIC METALS - - - - -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.20	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.22	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-03 (4'-5') 9-2-92 1015

WO #: 87303
 LAB #: A2I030028-004
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

- - - - - TOXICITY CHARACTERISTIC METALS - - - - -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.11	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-04 (.5'-1.5') 9-2-92 1035

WO #: 87310

LAB #: A2I030028-007

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.30	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.22	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-04 (4'-5') 9-2-92 1045

WO #: 87316
 LAB #: A2I030028-009
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.00	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05 (.5'-1.5') 9-2-92 1040

WO #: 87314
 LAB #: A2I030028-008
 MATRIX: SOLID

DATE RECEIVED: 9/03/92
 TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

- - - - - TOXICITY CHARACTERISTIC METALS - - - - -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.30	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	0.11	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NOT DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05 (4'-5') 9-2-92 1050

WO #: 87320

LAB #: A2I030028-010

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/9

BIAS CORRECTED

- - - - - TOXICITY CHARACTERISTIC METALS - - - - -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.00
Barium	1.00	1.000	1.00	SW846 6010	9/05- 9/09/92	100.00
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.00
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.00
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.00
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.20

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05A 9-2-92 1050

WO #: 87323

LAB #: A21030028-011

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TCLP EXTRACTION DATE: 9/05/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Arsenic	ND	0.500	1.00	SW846 6010	9/05- 9/09/92	5.000
Barium	ND	1.000	1.00	SW846 6010	9/05- 9/09/92	100.000
Cadmium	ND	0.109	0.92	SW846 6010	9/05- 9/09/92	1.000
Chromium	ND	0.110	0.91	SW846 6010	9/05- 9/09/92	5.000
Lead	ND	0.111	0.90	SW846 6010	9/05- 9/09/92	5.000
Selenium	ND	0.273	1.10	SW846 6010	9/05- 9/09/92	1.000
Mercury	ND	0.020	1.00	SW846 7471	9/05- 9/09/92	0.200

Q

NOTE: Bias Correction Batch: 87300 HG Bias Correction Batch: 87300
 CF {Bias Correction Factor}

Bias Correction Factor determined on sample: A21030028-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-01 (.5'-1.5') 9-2-92 1005

WO #: 87304

LAB #: A2I030028-005

MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Aluminum	1,700	21	mg/kg	SW846 6010	9/04- 9/09/92	248066
Barium	1.5	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04- 9/09/92	248066
Calcium	ND	520	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cobalt	ND	5.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Chromium	3.1	2.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Copper	1.1	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Iron	1,400	5.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Potassium	ND	520	mg/kg	SW846 6010	9/04- 9/09/92	248066
Magnesium	ND	520	mg/kg	SW846 6010	9/04- 9/09/92	248066
Manganese	4.1	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Sodium	ND	520	mg/kg	SW846 6010	9/04- 9/09/92	248066
Nickel	ND	4.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Antimony	ND	31	mg/kg	SW846 6010	9/04- 9/09/92	248066
Vanadium	ND	5.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Zinc	7.3	5.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Arsenic	1.5	0.5	mg/kg	SW846 7060	9/04- 9/08/92	248066
Lead	1.4	0.3	mg/kg	SW846 7421	9/04- 9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04- 9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04- 9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04- 9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-01 (4'-5') 9-2-92 1015

WO #: 87308

LAB #: A2I030028-006

MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Aluminum	1,800	21	mg/kg	SW846 6010	9/04- 9/09/92	248066
Barium	2.3	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04- 9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Chromium	ND	2.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Copper	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Iron	1,400	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Manganese	4.7	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04- 9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Zinc	8.1	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Arsenic	0.5	0.5	mg/kg	SW846 7060	9/04- 9/08/92	248066
Lead	0.9	0.3	mg/kg	SW846 7421	9/04- 9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04- 9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04- 9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04- 9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-02 (.5'-1.5') 9-2-92 1000

WO #: 87301
 LAB #: A2I030028-002
 MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>				
Silver	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Aluminum	1,700	21	mg/kg	SW846 6010	9/04-	9/09/92	248066
Barium	15	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04-	9/09/92	248066
Calcium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cobalt	ND	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Chromium	ND	2.1	mg/kg	SW846 6010	9/04-	9/09/92	248066
Copper	1.7	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Iron	1,500	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Potassium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Magnesium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Manganese	8.4	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Sodium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Antimony	ND	31	mg/kg	SW846 6010	9/04-	9/09/92	248066
Vanadium	ND	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Zinc	13	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Arsenic	1.4	0.5	mg/kg	SW846 7060	9/04-	9/08/92	248066
Lead	14	1.2	mg/kg	SW846 7421	9/04-	9/09/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04-	9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04-	9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04-	9/09/92	248066

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-02 (4'-5') 9-2-92 1010

WO #: 87302

LAB #: A2I030028-003

MATRIX: SOLID

DATE RECEIVED: 9/03/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Aluminum	1,600	21	mg/kg	SW846 6010	9/04- 9/09/92	248066
Barium	1.9	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04- 9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Chromium	ND	2.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Copper	1.3	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Iron	1,400	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Manganese	5.5	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04- 9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Zinc	13	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Arsenic	ND	0.5	mg/kg	SW846 7060	9/04- 9/08/92	248066
Lead	3.0	0.3	mg/kg	SW846 7421	9/04- 9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04- 9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04- 9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04- 9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-03 (.5'-1.5') 9-2-92 1005

WO #: 87300

LAB #: A2I030028-001

MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION -</u>	<u>QC</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Aluminum	1,400	21	mg/kg	SW846 6010	9/04- 9/09/92	248066
Barium	18	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04- 9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cadmium	1.9	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Chromium	ND	2.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Copper	12	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Iron	1,400	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Manganese	14	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04- 9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Zinc	66	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Arsenic	7.8	2.1	mg/kg	SW846 7060	9/04- 9/08/92	248066
Lead	50	5.0	mg/kg	SW846 7421	9/04- 9/09/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04- 9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04- 9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04- 9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-03 (4'-5') 9-2-92 1015

WO #: 87303

LAB #: A2I030028-004

MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Aluminum	1,800	21	mg/kg	SW846 6010	9/04-	9/09/92	248066
Barium	2.3	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04-	9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Chromium	2.7	2.1	mg/kg	SW846 6010	9/04-	9/09/92	248066
Copper	1.2	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Iron	1,400	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Manganese	5.2	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04-	9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Zinc	7.5	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Arsenic	0.6	0.5	mg/kg	SW846 7060	9/04-	9/08/92	248066
Lead	4.8	0.3	mg/kg	SW846 7421	9/04-	9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04-	9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04-	9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04-	9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-04 (.5'-1.5') 9-2-92 1035

WO #: 87310
 LAB #: A2I030028-007
 MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Aluminum	2,400	21	mg/kg	SW846 6010	9/04- 9/09/92	248066
Barium	12	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04- 9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Chromium	5.2	2.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Copper	12	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Iron	2,400	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Manganese	19	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04- 9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Zinc	79	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Arsenic	1.4	0.5	mg/kg	SW846 7060	9/04- 9/08/92	248066
Lead	56	5.0	mg/kg	SW846 7421	9/04- 9/09/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04- 9/08/92	248066
Selenium	ND	0.005	mg/kg	SW846 7740	9/04- 9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04- 9/09/92	248066

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-04 (4'-5') 9-2-92 1045

WO #: 87316
 LAB #: A2I030028-009
 MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Aluminum	1,600	21	mg/kg	SW846 6010	9/04- 9/09/92	248066
Barium	2.1	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04- 9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Chromium	ND	2.1	mg/kg	SW846 6010	9/04- 9/09/92	248066
Copper	ND	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Iron	1,300	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Manganese	4.1	1.0	mg/kg	SW846 6010	9/04- 9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04- 9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04- 9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04- 9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Zinc	7.2	5.3	mg/kg	SW846 6010	9/04- 9/09/92	248066
Arsenic	ND	0.5	mg/kg	SW846 7060	9/04- 9/08/92	248066
Lead	1.7	0.3	mg/kg	SW846 7421	9/04- 9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04- 9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04- 9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04- 9/09/92	248066

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05 (.5'-1.5') 9-2-92 1040

WO #: 87314

LAB #: A2I030028-008

MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC</u> <u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>DATE</u>	
Silver	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Aluminum	1,800	21	mg/kg	SW846 6010	9/04-	9/09/92	248066
Barium	5.5	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04-	9/09/92	248066
Calcium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cobalt	ND	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Chromium	2.9	2.1	mg/kg	SW846 6010	9/04-	9/09/92	248066
Copper	1.1	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Iron	1,500	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Potassium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Magnesium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Manganese	16	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Sodium	ND	520	mg/kg	SW846 6010	9/04-	9/09/92	248066
Nickel	ND	4.1	mg/kg	SW846 6010	9/04-	9/09/92	248066
Antimony	ND	31	mg/kg	SW846 6010	9/04-	9/09/92	248066
Vanadium	ND	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Zinc	38	5.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Arsenic	1.9	0.5	mg/kg	SW846 7060	9/04-	9/08/92	248066
Lead	2.9	0.3	mg/kg	SW846 7421	9/04-	9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04-	9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04-	9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04-	9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05 (4'-5') 9-2-92 1050

WO #: 87320
 LAB #: A2I030028-010
 MATRIX: SOLID

DATE RECEIVED: 9/03/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Aluminum	1,700	21	mg/kg	SW846 6010	9/04-	9/09/92	248066
Barium	2.9	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04-	9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Chromium	2.5	2.1	mg/kg	SW846 6010	9/04-	9/09/92	248066
Copper	1.4	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Iron	1,900	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Manganese	7.6	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04-	9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Zinc	16	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Arsenic	ND	0.5	mg/kg	SW846 7060	9/04-	9/08/92	248066
Lead	3.9	0.3	mg/kg	SW846 7421	9/04-	9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04-	9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04-	9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04-	9/09/92	248066

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-25-SS-05A 9-2-92 1050

WO #: 87323

LAB #: A2I030028-011

MATRIX: SOLID

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC</u> <u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>DATE</u>	
Silver	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Aluminum	1,500	21	mg/kg	SW846 6010	9/04-	9/09/92	248066
Barium	2.4	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Beryllium	ND	0.5	mg/kg	SW846 6010	9/04-	9/09/92	248066
Calcium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cadmium	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Cobalt	ND	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Chromium	2.1	2.1	mg/kg	SW846 6010	9/04-	9/09/92	248066
Copper	ND	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Iron	1,400	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Potassium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Magnesium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Manganese	4.9	1.0	mg/kg	SW846 6010	9/04-	9/09/92	248066
Sodium	ND	530	mg/kg	SW846 6010	9/04-	9/09/92	248066
Nickel	ND	4.2	mg/kg	SW846 6010	9/04-	9/09/92	248066
Antimony	ND	32	mg/kg	SW846 6010	9/04-	9/09/92	248066
Vanadium	ND	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Zinc	10	5.3	mg/kg	SW846 6010	9/04-	9/09/92	248066
Arsenic	0.8	0.5	mg/kg	SW846 7060	9/04-	9/08/92	248066
Lead	5.0	0.3	mg/kg	SW846 7421	9/04-	9/08/92	248066
Mercury	ND	0.1	mg/kg	SW846 7471	9/04-	9/08/92	248066
Selenium	ND	0.5	mg/kg	SW846 7740	9/04-	9/08/92	248066
Thallium	ND	1.0	mg/kg	SW846 7841	9/04-	9/09/92	248066

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018133
 LAB #: A2I020022-007
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>1 OF 4</u>			
Acenaphthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Acenaphthylene	ND	350		SW846 8270	9/03- 9/07/92	247027
Anthracene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(a)anthracene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(b)fluoranthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(k)fluoranthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(ghi)perylene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(a)pyrene	ND	350		SW846 8270	9/03- 9/07/92	247027
Bis(2-chloroethoxy)methane	ND	350		SW846 8270	9/03- 9/07/92	247027
Bis(2-chloroethyl)ether	ND	350		SW846 8270	9/03- 9/07/92	247027
2,2'-oxybis(1-Chloropropane)	ND	350		SW846 8270	9/03- 9/07/92	247027
Bis(2-ethylhexyl)phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
4-Bromophenyl phenyl ether	ND	350		SW846 8270	9/03- 9/07/92	247027
Butyl benzyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
Carbazole	ND	350		SW846 8270	9/03- 9/07/92	247027
4-Chloroaniline	ND	350		SW846 8270	9/03- 9/07/92	247027
2-Chloronaphthalene	ND	350		SW846 8270	9/03- 9/07/92	247027
4-Chlorophenyl phenyl ether	ND	350		SW846 8270	9/03- 9/07/92	247027
Chrysene	ND	350		SW846 8270	9/03- 9/07/92	247027
Dibenzo(a,h)anthracene	ND	350		SW846 8270	9/03- 9/07/92	247027
Dibenzofuran	ND	350		SW846 8270	9/03- 9/07/92	247027
Di-n-butyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
1,2-Dichlorobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
1,3-Dichlorobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>				
Nitrobenzene-d5	72	(23 - 120)				
2-Fluorobiphenyl	66	(30 - 115)				
Terphenyl-d14	77	(18 - 137)				
2-Fluorophenol	59	(25 - 121)				
Phenol-d5	60	(24 - 113)				
2,4,6-Tribromophenol	72	(19 - 122)				

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018133
 LAB #: A21020022-007
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>2 OR 4</u>			
1,4-Dichlorobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
3,3'-Dichlorobenzidine	ND	700		SW846 8270	9/03- 9/07/92	247027
Diethyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
Dimethyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
2,4-Dinitrotoluene	ND	350		SW846 8270	9/03- 9/07/92	247027
2,6-Dinitrotoluene	ND	350		SW846 8270	9/03- 9/07/92	247027
Di-n-octyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
Fluoranthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Fluorene	ND	350		SW846 8270	9/03- 9/07/92	247027
Hexachlorobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
Hexachlorobutadiene	ND	350		SW846 8270	9/03- 9/07/92	247027
Hexachlorocyclopentadiene	ND	350		SW846 8270	9/03- 9/07/92	247027
Hexachloroethane	ND	350		SW846 8270	9/03- 9/07/92	247027
Indeno(1,2,3-cd)pyrene	ND	350		SW846 8270	9/03- 9/07/92	247027
Isophorone	ND	350		SW846 8270	9/03- 9/07/92	247027
2-Methylnaphthalene	ND	350		SW846 8270	9/03- 9/07/92	247027
Naphthalene	ND	350		SW846 8270	9/03- 9/07/92	247027
Nitrobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
2-Nitroaniline	ND	1,700		SW846 8270	9/03- 9/07/92	247027
3-Nitroaniline	ND	1,700		SW846 8270	9/03- 9/07/92	247027
4-Nitroaniline	ND	1,700		SW846 8270	9/03- 9/07/92	247027
N-Nitrosodiphenylamine	ND	350		SW846 8270	9/03- 9/07/92	247027
N-Nitrosodi-n-propylamine	ND	350		SW846 8270	9/03- 9/07/92	247027
Phenanthrene	ND	350		SW846 8270	9/03- 9/07/92	247027
<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>				
Nitrobenzene-d5	72	(23 - 120)				
2-Fluorobiphenyl	66	(30 - 115)				
Terphenyl-d14	77	(18 - 137)				
2-Fluorophenol	59	(25 - 121)				
Phenol-d5	60	(24 - 113)				
2,4,6-Tribromophenol	72	(19 - 122)				

NOTE: DRY WEIGHT
 ND (NOT DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018133
 LAB #: A21020022-007
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

3 OF 4

<u>PARAMETER</u>	<u>RESULT</u> (ug/kg)	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS</u>	<u>QC</u> <u>BATCH</u>
Pyrene	ND	350	SW846 8270	9/03- 9/07/92	247027
1,2,4-Trichlorobenzene	ND	350	SW846 8270	9/03- 9/07/92	247027

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	72	(23 - 120)
2-Fluorobiphenyl	66	(30 - 115)
Terphenyl-d14	77	(18 - 137)
2-Fluorophenol	59	(25 - 121)
Phenol-d5	60	(24 - 113)
2,4,6-Tribromophenol	72	(19 - 122)

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018133
 LAB #: A2I020022-007
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -
 4 OF 4

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
4-Chloro-3-methylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2-Chlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dichlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dimethylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dinitrophenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
4,6-Dinitro- 2-methylphenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
2-Methylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
4-Methylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2-Nitrophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
4-Nitrophenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
Pentachlorophenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
Phenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4,5-Trichlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4,6-Trichlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	72	(23 - 120)
2-Fluorobiphenyl	66	(30 - 115)
Terphenyl-d14	77	(18 - 137)
2-Fluorophenol	59	(25 - 121)
Phenol-d5	60	(24 - 113)
2,4,6-Tribromophenol	72	(19 - 122)

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019131
 LAB #: A2I020022-008
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCL SEMIVOLATILE ORGANICS					
<u>PARAMETER</u>	<u>RESULT</u> (ug/kg)	<u>REPORTING</u>		<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>
		<u>LIMIT</u>	<u>1 OF 4</u>		
Acenaphthene	ND	430		SW846 8270	9/03- 9/07/92
Acenaphthylene	ND	430		SW846 8270	9/03- 9/07/92
Anthracene	ND	430		SW846 8270	9/03- 9/07/92
Benzo(a)anthracene	ND	430		SW846 8270	9/03- 9/07/92
Benzo(b)fluoranthene	ND	430		SW846 8270	9/03- 9/07/92
Benzo(k)fluoranthene	ND	430		SW846 8270	9/03- 9/07/92
Benzo(ghi)perylene	ND	430		SW846 8270	9/03- 9/07/92
Benzo(a)pyrene	ND	430		SW846 8270	9/03- 9/07/92
Bis(2-chloroethoxy)methane	ND	430		SW846 8270	9/03- 9/07/92
Bis(2-chloroethyl)ether	ND	430		SW846 8270	9/03- 9/07/92
2,2'-oxybis(1-Chloropropane)	ND	430		SW846 8270	9/03- 9/07/92
Bis(2-ethylhexyl)phthalate	ND	430		SW846 8270	9/03- 9/07/92
4-Bromophenyl phenyl ether	ND	430		SW846 8270	9/03- 9/07/92
Butyl benzyl phthalate	ND	430		SW846 8270	9/03- 9/07/92
Carbazole	ND	430		SW846 8270	9/03- 9/07/92
4-Chloroaniline	ND	430		SW846 8270	9/03- 9/07/92
2-Chloronaphthalene	ND	430		SW846 8270	9/03- 9/07/92
4-Chlorophenyl phenyl ether	ND	430		SW846 8270	9/03- 9/07/92
Chrysene	ND	430		SW846 8270	9/03- 9/07/92
Dibenzo(a,h)anthracene	ND	430		SW846 8270	9/03- 9/07/92
Dibenzofuran	ND	430		SW846 8270	9/03- 9/07/92
Di-n-butyl phthalate	ND	430		SW846 8270	9/03- 9/07/92
1,2-Dichlorobenzene	ND	430		SW846 8270	9/03- 9/07/92
1,3-Dichlorobenzene	ND	430		SW846 8270	9/03- 9/07/92
<u>SURROGATE RECOVERY</u>		<u>%</u>	<u>ACCEPTABLE LIMITS</u>		
Nitrobenzene-d5	79		(23 - 120)		
2-Fluorobiphenyl	60		(30 - 115)		
Terphenyl-d14	104		(18 - 137)		
2-Fluorophenol	62		(25 - 121)		
Phenol-d5	59		(24 - 113)		
2,4,6-Tribromophenol	75		(19 - 122)		

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019131
 LAB #: A21020022-008
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

<u>PARAMETER</u>	<u>TCL SEMIVOLATILE ORGANICS</u>				<u>QC BATCH</u>
	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>	
1,4-Dichlorobenzene	ND	430	SW846 8270	9/03- 9/07/92	247027
3,3'-Dichlorobenzidine	ND	860	SW846 8270	9/03- 9/07/92	247027
Diethyl phthalate	ND	430	SW846 8270	9/03- 9/07/92	247027
Dimethyl phthalate	ND	430	SW846 8270	9/03- 9/07/92	247027
2,4-Dinitrotoluene	ND	430	SW846 8270	9/03- 9/07/92	247027
2,6-Dinitrotoluene	ND	430	SW846 8270	9/03- 9/07/92	247027
Di-n-octyl phthalate	ND	430	SW846 8270	9/03- 9/07/92	247027
Fluoranthene	ND	430	SW846 8270	9/03- 9/07/92	247027
Fluorene	ND	430	SW846 8270	9/03- 9/07/92	247027
Hexachlorobenzene	ND	430	SW846 8270	9/03- 9/07/92	247027
Hexachlorobutadiene	ND	430	SW846 8270	9/03- 9/07/92	247027
Hexachlorocyclopentadiene	ND	430	SW846 8270	9/03- 9/07/92	247027
Hexachloroethane	ND	430	SW846 8270	9/03- 9/07/92	247027
Indeno(1,2,3-cd)pyrene	ND	430	SW846 8270	9/03- 9/07/92	247027
Isophorone	ND	430	SW846 8270	9/03- 9/07/92	247027
2-Methylnaphthalene	ND	430	SW846 8270	9/03- 9/07/92	247027
Naphthalene	ND	430	SW846 8270	9/03- 9/07/92	247027
Nitrobenzene	ND	430	SW846 8270	9/03- 9/07/92	247027
2-Nitroaniline	ND	2,100	SW846 8270	9/03- 9/07/92	247027
3-Nitroaniline	ND	2,100	SW846 8270	9/03- 9/07/92	247027
4-Nitroaniline	ND	2,100	SW846 8270	9/03- 9/07/92	247027
N-Nitrosodiphenylamine	ND	430	SW846 8270	9/03- 9/07/92	247027
N-Nitrosodi-n-propylamine	ND	430	SW846 8270	9/03- 9/07/92	247027
Phenanthrene	ND	430	SW846 8270	9/03- 9/07/92	247027
<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>			
Nitrobenzene-d5	79	(23 - 120)			
2-Fluorobiphenyl	60	(30 - 115)			
Terphenyl-d14	104	(18 - 137)			
2-Fluorophenol	62	(25 - 121)			
Phenol-d5	59	(24 - 113)			
2,4,6-Tribromophenol	75	(19 - 122)			

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019131
 LAB #: A2I020022-008
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

3 OF 4

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
Pyrene	ND	430	SW846 8270	9/03- 9/07/92	247027
1,2,4-Trichlorobenzene	ND	430	SW846 8270	9/03- 9/07/92	247027

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	79	(23 - 120)
2-Fluorobiphenyl	60	(30 - 115)
Terphenyl-d14	104	(18 - 137)
2-Fluorophenol	62	(25 - 121)
Phenol-d5	59	(24 - 113)
2,4,6-Tribromophenol	75	(19 - 122)

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019131
 LAB #: A2I020022-008
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

PARAMETER	TCL SEMIVOLATILE ORGANICS				QC BATCH
	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION- ANALYSIS DATE	
4-Chloro-3-methylphenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2-Chlorophenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2,4-Dichlorophenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2,4-Dimethylphenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2,4-Dinitrophenol	ND	2,100	SW846 8270	9/03- 9/07/92	247027
4,6-Dinitro- 2-methylphenol	ND	2,100	SW846 8270	9/03- 9/07/92	247027
2-Methylphenol	ND	430	SW846 8270	9/03- 9/07/92	247027
4-Methylphenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2-Nitrophenol	ND	430	SW846 8270	9/03- 9/07/92	247027
4-Nitrophenol	ND	2,100	SW846 8270	9/03- 9/07/92	247027
Pentachlorophenol	ND	2,100	SW846 8270	9/03- 9/07/92	247027
Phenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2,4,5-Trichlorophenol	ND	430	SW846 8270	9/03- 9/07/92	247027
2,4,6-Trichlorophenol	ND	430	SW846 8270	9/03- 9/07/92	247027

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	79	(23 - 120)
2-Fluorobiphenyl	60	(30 - 115)
Terphenyl-d14	104	(18 - 137)
2-Fluorophenol	62	(25 - 121)
Phenol-d5	59	(24 - 113)
2,4,6-Tribromophenol	75	(19 - 122)

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04A,MS,MSD 9-1-92 1125

WO #: 87020123
 LAB #: A2I020022-009
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>1 OF 4</u>			
Acenaphthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Acenaphthylene	ND	350		SW846 8270	9/03- 9/07/92	247027
Anthracene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(a)anthracene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(b)fluoranthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(k)fluoranthene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(ghi)perylene	ND	350		SW846 8270	9/03- 9/07/92	247027
Benzo(a)pyrene	ND	350		SW846 8270	9/03- 9/07/92	247027
Bis(2-chloroethoxy)methane	ND	350		SW846 8270	9/03- 9/07/92	247027
Bis(2-chloroethyl)ether	ND	350		SW846 8270	9/03- 9/07/92	247027
2,2'-oxybis(1-Chloropropane)	ND	350		SW846 8270	9/03- 9/07/92	247027
Bis(2-ethylhexyl)phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
4-Bromophenyl phenyl ether .	ND	350		SW846 8270	9/03- 9/07/92	247027
Butyl benzyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
Carbazole	ND	350		SW846 8270	9/03- 9/07/92	247027
4-Chloroaniline	ND	350		SW846 8270	9/03- 9/07/92	247027
2-Chloronaphthalene	ND	350		SW846 8270	9/03- 9/07/92	247027
4-Chlorophenyl phenyl ether	ND	350		SW846 8270	9/03- 9/07/92	247027
Chrysene	ND	350		SW846 8270	9/03- 9/07/92	247027
Dibenzo(a,h)anthracene	ND	350		SW846 8270	9/03- 9/07/92	247027
Dibenzofuran	ND	350		SW846 8270	9/03- 9/07/92	247027
Di-n-butyl phthalate	ND	350		SW846 8270	9/03- 9/07/92	247027
1,2-Dichlorobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
1,3-Dichlorobenzene	ND	350		SW846 8270	9/03- 9/07/92	247027
<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>				
Nitrobenzene-d5	83	(23 - 120)				
2-Fluorobiphenyl	62	(30 - 115)				
Terphenyl-d14	137	(18 - 137)				
2-Fluorophenol	64	(25 - 121)				
Phenol-d5	59	(24 - 113)				
2,4,6-Tribromophenol	72	(19 - 122)				

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04A,MS,MSD 9-1-92 1125

WO #: 87020123
 LAB #: A2I020022-009
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

PARAMETER	RESULT (ug/kg)	REPORTING		EXTRACTION- ANALYSIS DATE	QC BATCH
		LIMIT	METHOD		
1,4-Dichlorobenzene	ND	350	SW846 8270	9/03- 9/07/92	247027
3,3'-Dichlorobenzidine	ND	700	SW846 8270	9/03- 9/07/92	247027
Diethyl phthalate	ND	350	SW846 8270	9/03- 9/07/92	247027
Dimethyl phthalate	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dinitrotoluene	ND	350	SW846 8270	9/03- 9/07/92	247027
2,6-Dinitrotoluene	ND	350	SW846 8270	9/03- 9/07/92	247027
Di-n-octyl phthalate	ND	350	SW846 8270	9/03- 9/07/92	247027
Fluoranthene	ND	350	SW846 8270	9/03- 9/07/92	247027
Fluorene	ND	350	SW846 8270	9/03- 9/07/92	247027
Hexachlorobenzene	ND	350	SW846 8270	9/03- 9/07/92	247027
Hexachlorobutadiene	ND	350	SW846 8270	9/03- 9/07/92	247027
Hexachlorocyclopentadiene	ND	350	SW846 8270	9/03- 9/07/92	247027
Hexachloroethane	ND	350	SW846 8270	9/03- 9/07/92	247027
Indeno(1,2,3-cd)pyrene	ND	350	SW846 8270	9/03- 9/07/92	247027
Isophorone	ND	350	SW846 8270	9/03- 9/07/92	247027
2-Methylnaphthalene	ND	350	SW846 8270	9/03- 9/07/92	247027
Naphthalene	ND	350	SW846 8270	9/03- 9/07/92	247027
Nitrobenzene	ND	350	SW846 8270	9/03- 9/07/92	247027
2-Nitroaniline	ND	1,700	SW846 8270	9/03- 9/07/92	247027
3-Nitroaniline	ND	1,700	SW846 8270	9/03- 9/07/92	247027
4-Nitroaniline	ND	1,700	SW846 8270	9/03- 9/07/92	247027
N-Nitrosodiphenylamine	ND	350	SW846 8270	9/03- 9/07/92	247027
N-Nitrosodi-n-propylamine	ND	350	SW846 8270	9/03- 9/07/92	247027
Phenanthrene	ND	350	SW846 8270	9/03- 9/07/92	247027
<u>SURROGATE RECOVERY</u>	%	<u>ACCEPTABLE LIMITS</u>			
Nitrobenzene-d5	83	(23 - 120)			
2-Fluorobiphenyl	62	(30 - 115)			
Terphenyl-d14	137	(18 - 137)			
2-Fluorophenol	64	(25 - 121)			
Phenol-d5	59	(24 - 113)			
2,4,6-Tribromophenol	72	(19 - 122)			

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04A,MS,MSD 9-1-92 1125

WO #: 87020123
 LAB #: A2I020022-009
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

3 OF 4

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
Pyrene	ND	350	SW846 8270	9/03- 9/07/92	247027
1,2,4-Trichlorobenzene	ND	350	SW846 8270	9/03- 9/07/92	247027

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	83	(23 - 120)
2-Fluorobiphenyl	62	(30 - 115)
Terphenyl-d14	137	(18 - 137)
2-Fluorophenol	64	(25 - 121)
Phenol-d5	59	(24 - 113)
2,4,6-Tribromophenol	72	(19 - 122)

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04A,MS,MSD 9-1-92 1125

WO #: 87020123
 LAB #: A2I020022-009
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

<u>PARAMETER</u>	TCL SEMIVOLATILE ORGANICS				<u>QC BATCH</u>
	<u>RESULT</u> <u>(ug/kg)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	
4-Chloro-3-methylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2-Chlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dichlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dimethylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4-Dinitrophenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
4,6-Dinitro- 2-methylphenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
2-Methylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
4-Methylphenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2-Nitrophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
4-Nitrophenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
Pentachlorophenol	ND	1,700	SW846 8270	9/03- 9/07/92	247027
Phenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4,5-Trichlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027
2,4,6-Trichlorophenol	ND	350	SW846 8270	9/03- 9/07/92	247027

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	83	(23 - 120)
2-Fluorobiphenyl	62	(30 - 115)
Terphenyl-d14	137	(18 - 137)
2-Fluorophenol	64	(25 - 121)
Phenol-d5	59	(24 - 113)
2,4,6-Tribromophenol	72	(19 - 122)

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-FB-SS-01 8-31-92 1630

WO #: 86862123
 LAB #: A2I010054-003
 MATRIX: WATER

DATE RECEIVED: 9/01/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

1 OF 4

<u>PARAMETER</u>	<u>RESULT</u> (ug/L)	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
Acenaphthene	ND	10	SW846 8270	9/03- 9/08/92	247012
Acenaphthylene	ND	10	SW846 8270	9/03- 9/08/92	247012
Anthracene	ND	10	SW846 8270	9/03- 9/08/92	247012
Benzo(a)anthracene	ND	10	SW846 8270	9/03- 9/08/92	247012
Benzo(b)fluoranthene	ND	10	SW846 8270	9/03- 9/08/92	247012
Benzo(k)fluoranthene	ND	10	SW846 8270	9/03- 9/08/92	247012
Benzo(ghi)perylene	ND	10	SW846 8270	9/03- 9/08/92	247012
Benzo(a)pyrene	ND	10	SW846 8270	9/03- 9/08/92	247012
Bis(2-chloroethoxy)methane	ND	10	SW846 8270	9/03- 9/08/92	247012
Bis(2-chloroethyl)ether	ND	10	SW846 8270	9/03- 9/08/92	247012
2,2'-oxybis(1-Chloropropane)	ND	10	SW846 8270	9/03- 9/08/92	247012
Bis(2-ethylhexyl)phthalate	ND	10	SW846 8270	9/03- 9/08/92	247012
4-Bromophenyl phenyl ether	ND	10	SW846 8270	9/03- 9/08/92	247012
Butyl benzyl phthalate	ND	10	SW846 8270	9/03- 9/08/92	247012
Carbazole	ND	10	SW846 8270	9/03- 9/08/92	247012
4-Chloroaniline	ND	10	SW846 8270	9/03- 9/08/92	247012
2-Chloronaphthalene	ND	10	SW846 8270	9/03- 9/08/92	247012
4-Chlorophenyl phenyl ether	ND	10	SW846 8270	9/03- 9/08/92	247012
Chrysene	ND	10	SW846 8270	9/03- 9/08/92	247012
Dibenzo(a,h)anthracene	ND	10	SW846 8270	9/03- 9/08/92	247012
Dibenzofuran	ND	10	SW846 8270	9/03- 9/08/92	247012
Di-n-butyl phthalate	ND	10	SW846 8270	9/03- 9/08/92	247012
1,2-Dichlorobenzene	ND	10	SW846 8270	9/03- 9/08/92	247012
1,3-Dichlorobenzene	ND	10	SW846 8270	9/03- 9/08/92	247012
<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>			
Nitrobenzene-d5	91	(35 - 114)			
2-Fluorobiphenyl	58	(43 - 116)			
Terphenyl-d14	71	(33 - 141)			
2-Fluorophenol	77	(21 - 100)			
Phenol-d5	60	(10 - 94)			
2,4,6-Tribromophenol	66	(10 - 123)			

NOTE: AS RECEIVED

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-FB-SS-01 8-31-92 1630

WO #: 86862123
 LAB #: A2I010054-003
 MATRIX: WATER

DATE RECEIVED: 9/01/92

--- TCL SEMIVOLATILE ORGANICS ---

2 OF 4

<u>PARAMETER</u>	<u>RESULT (ug/L)</u>	<u>REPORTING LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION- ANALYSIS DATE</u>	<u>QC BATCH</u>
1,4-Dichlorobenzene	ND	10	SW846 8270	9/03- 9/08/92	247012
3,3'-Dichlorobenzidine	ND	20	SW846 8270	9/03- 9/08/92	247012
Diethyl phthalate	ND	10	SW846 8270	9/03- 9/08/92	247012
Dimethyl phthalate	ND	10	SW846 8270	9/03- 9/08/92	247012
2,4-Dinitrotoluene	ND	10	SW846 8270	9/03- 9/08/92	247012
2,6-Dinitrotoluene	ND	10	SW846 8270	9/03- 9/08/92	247012
Di-n-octyl phthalate	ND	10	SW846 8270	9/03- 9/08/92	247012
Fluoranthene	ND	10	SW846 8270	9/03- 9/08/92	247012
Fluorene	ND	10	SW846 8270	9/03- 9/08/92	247012
Hexachlorobenzene	ND	10	SW846 8270	9/03- 9/08/92	247012
Hexachlorobutadiene	ND	10	SW846 8270	9/03- 9/08/92	247012
Hexachlorocyclopentadiene	ND	10	SW846 8270	9/03- 9/08/92	247012
Hexachloroethane	ND	10	SW846 8270	9/03- 9/08/92	247012
Indeno(1,2,3-cd)pyrene	ND	10	SW846 8270	9/03- 9/08/92	247012
Isophorone	ND	10	SW846 8270	9/03- 9/08/92	247012
2-Methylnaphthalene	ND	10	SW846 8270	9/03- 9/08/92	247012
Naphthalene	ND	10	SW846 8270	9/03- 9/08/92	247012
Nitrobenzene	ND	10	SW846 8270	9/03- 9/08/92	247012
2-Nitroaniline	ND	50	SW846 8270	9/03- 9/08/92	247012
3-Nitroaniline	ND	50	SW846 8270	9/03- 9/08/92	247012
4-Nitroaniline	ND	50	SW846 8270	9/03- 9/08/92	247012
N-Nitrosodiphenylamine	ND	10	SW846 8270	9/03- 9/08/92	247012
N-Nitrosodi-n-propylamine	ND	10	SW846 8270	9/03- 9/08/92	247012
Phenanthrene	ND	10	SW846 8270	9/03- 9/08/92	247012
<u>SURROGATE RECOVERY</u>	<u>%</u>		<u>ACCEPTABLE LIMITS</u>		
Nitrobenzene-d5	91		(35 - 114)		
2-Fluorobiphenyl	58		(43 - 116)		
Terphenyl-d14	71		(33 - 141)		
2-Fluorophenol	77		(21 - 100)		
Phenol-d5	60		(10 - 94)		
2,4,6-Tribromophenol	66		(10 - 123)		

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-FB-SS-01 8-31-92 1630

WO #: 86862123
 LAB #: A2I010054-003
 MATRIX: WATER

DATE RECEIVED: 9/01/92

--- TCL SEMIVOLATILE ORGANICS ---

3 OF 4

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
Pyrene	ND	10	SW846 8270	9/03- 9/08/92	247012
1,2,4-Trichlorobenzene	ND	10	SW846 8270	9/03- 9/08/92	247012

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	91	(35 - 114)
2-Fluorobiphenyl	58	(43 - 116)
Terphenyl-d14	71	(33 - 141)
2-Fluorophenol	77	(21 - 100)
Phenol-d5	60	(10 - 94)
2,4,6-Tribromophenol	66	(10 - 123)

NOTE: AS RECEIVED

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-FB-SS-01 8-31-92 1630

WO #: 86862123
 LAB #: A2I010054-003
 MATRIX: WATER

DATE RECEIVED: 9/01/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

4 OR 4

<u>PARAMETER</u>	<u>RESULT</u> (ug/L)	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
4-Chloro-3-methylphenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2-Chlorophenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2,4-Dichlorophenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2,4-Dimethylphenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2,4-Dinitrophenol	ND	50	SW846 8270	9/03- 9/08/92	247012
4,6-Dinitro- 2-methylphenol	ND	50	SW846 8270	9/03- 9/08/92	247012
2-Methylphenol	ND	10	SW846 8270	9/03- 9/08/92	247012
4-Methylphenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2-Nitrophenol	ND	10	SW846 8270	9/03- 9/08/92	247012
4-Nitrophenol	ND	50	SW846 8270	9/03- 9/08/92	247012
Pentachlorophenol	ND	50	SW846 8270	9/03- 9/08/92	247012
Phenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2,4,5-Trichlorophenol	ND	10	SW846 8270	9/03- 9/08/92	247012
2,4,6-Trichlorophenol	ND	10	SW846 8270	9/03- 9/08/92	247012

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	91	(35 - 114)
2-Fluorobiphenyl	58	(43 - 116)
Terphenyl-d14	71	(33 - 141)
2-Fluorophenol	77	(21 - 100)
Phenol-d5	60	(10 - 94)
2,4,6-Tribromophenol	66	(10 - 123)

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-02 9-1-92 1320

WO #: 87022123
 LAB #: A2I020022-010
 MATRIX: WATER

DATE RECEIVED: 9/02/92

TCL SEMIVOLATILE ORGANICS					
<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/L)</u>	REPORTING		<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>
		<u>LIMIT</u>	<u>1 OF 4</u>		
Acenaphthene	ND	10		SW846 8270	9/03- 9/09/92
Acenaphthylene	ND	10		SW846 8270	9/03- 9/09/92
Anthracene	ND	10		SW846 8270	9/03- 9/09/92
Benzo(a)anthracene	ND	10		SW846 8270	9/03- 9/09/92
Benzo(b)fluoranthene	ND	10		SW846 8270	9/03- 9/09/92
Benzo(k)fluoranthene	ND	10		SW846 8270	9/03- 9/09/92
Benzo(ghi)perylene	ND	10		SW846 8270	9/03- 9/09/92
Benzo(a)pyrene	ND	10		SW846 8270	9/03- 9/09/92
Bis(2-chloroethoxy)methane	ND	10		SW846 8270	9/03- 9/09/92
Bis(2-chloroethyl)ether	ND	10		SW846 8270	9/03- 9/09/92
2,2'-oxybis(1-Chloropropane)	ND	10		SW846 8270	9/03- 9/09/92
Bis(2-ethylhexyl)phthalate	ND	10		SW846 8270	9/03- 9/09/92
4-Bromophenyl phenyl ether	ND	10		SW846 8270	9/03- 9/09/92
Butyl benzyl phthalate	ND	10		SW846 8270	9/03- 9/09/92
Carbazole	ND	10		SW846 8270	9/03- 9/09/92
4-Chloroaniline	ND	10		SW846 8270	9/03- 9/09/92
2-Chloronaphthalene	ND	10		SW846 8270	9/03- 9/09/92
4-Chlorophenyl phenyl ether	ND	10		SW846 8270	9/03- 9/09/92
Chrysene	ND	10		SW846 8270	9/03- 9/09/92
Dibenzo(a,h)anthracene	ND	10		SW846 8270	9/03- 9/09/92
Dibenzofuran	ND	10		SW846 8270	9/03- 9/09/92
Di-n-butyl phthalate	ND	10		SW846 8270	9/03- 9/09/92
1,2-Dichlorobenzene	ND	10		SW846 8270	9/03- 9/09/92
1,3-Dichlorobenzene	ND	10		SW846 8270	9/03- 9/09/92
<u>SURROGATE RECOVERY</u>	%	<u>ACCEPTABLE LIMITS</u>			
Nitrobenzene-d5	111	(35 - 114)			
2-Fluorobiphenyl	67	(43 - 116)			
Terphenyl-d14	35	(33 - 141)			
2-Fluorophenol	62	(21 - 100)			
Phenol-d5	55	(10 - 94)			
2,4,6-Tribromophenol	73	(10 - 123)			

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-02 9-1-92 1320

WO #: 87022123
 LAB #: A2I020022-010
 MATRIX: WATER

DATE RECEIVED: 9/02/92

TCL SEMIVOLATILE ORGANICS						
<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u>		<u>METHOD</u>	<u>EXTRACTION-ANALYSIS DATE</u>	<u>QC BATCH</u>
		2 OF	4			
1,4-Dichlorobenzene	ND	10		SW846 8270	9/03- 9/09/92	247012
3,3'-Dichlorobenzidine	ND	20		SW846 8270	9/03- 9/09/92	247012
Diethyl phthalate	ND	10		SW846 8270	9/03- 9/09/92	247012
Dimethyl phthalate	ND	10		SW846 8270	9/03- 9/09/92	247012
2,4-Dinitrotoluene	ND	10		SW846 8270	9/03- 9/09/92	247012
2,6-Dinitrotoluene	ND	10		SW846 8270	9/03- 9/09/92	247012
Di-n-octyl phthalate	ND	10		SW846 8270	9/03- 9/09/92	247012
Fluoranthene	ND	10		SW846 8270	9/03- 9/09/92	247012
Fluorene	ND	10		SW846 8270	9/03- 9/09/92	247012
Hexachlorobenzene	ND	10		SW846 8270	9/03- 9/09/92	247012
Hexachlorobutadiene	ND	10		SW846 8270	9/03- 9/09/92	247012
Hexachlorocyclopentadiene	ND	10		SW846 8270	9/03- 9/09/92	247012
Hexachloroethane	ND	10		SW846 8270	9/03- 9/09/92	247012
Indeno(1,2,3-cd)pyrene	ND	10		SW846 8270	9/03- 9/09/92	247012
Isophorone	ND	10		SW846 8270	9/03- 9/09/92	247012
2-Methylnaphthalene	ND	10		SW846 8270	9/03- 9/09/92	247012
Naphthalene	ND	10		SW846 8270	9/03- 9/09/92	247012
Nitrobenzene	ND	10		SW846 8270	9/03- 9/09/92	247012
2-Nitroaniline	ND	50		SW846 8270	9/03- 9/09/92	247012
3-Nitroaniline	ND	50		SW846 8270	9/03- 9/09/92	247012
4-Nitroaniline	ND	50		SW846 8270	9/03- 9/09/92	247012
N-Nitrosodiphenylamine	ND	10		SW846 8270	9/03- 9/09/92	247012
N-Nitrosodi-n-propylamine	ND	10		SW846 8270	9/03- 9/09/92	247012
Phenanthrene	ND	10		SW846 8270	9/03- 9/09/92	247012
<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>				
Nitrobenzene-d5	111	(35 - 114)				
2-Fluorobiphenyl	67	(43 - 116)				
Terphenyl-d14	35	(33 - 141)				
2-Fluorophenol	62	(21 - 100)				
Phenol-d5	55	(10 - 94)				
2,4,6-Tribromophenol	73	(10 - 123)				

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-02 9-1-92 1320

WO #: 87022123
 LAB #: A2I020022-010
 MATRIX: WATER

DATE RECEIVED: 9/02/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

3 OF 4

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
Pyrene	ND	10	SW846 8270	9/03- 9/09/92	247012
1,2,4-Trichlorobenzene	ND	10	SW846 8270	9/03- 9/09/92	247012

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	111	(35 - 114)
2-Fluorobiphenyl	67	(43 - 116)
Terphenyl-d14	35	(33 - 141)
2-Fluorophenol	62	(21 - 100)
Phenol-d5	55	(10 - 94)
2,4,6-Tribromophenol	73	(10 - 123)

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-02 9-1-92 1320

WO #: 87022123
 LAB #: A2I020022-010
 MATRIX: WATER

DATE RECEIVED: 9/02/92

- - - - - TCL SEMIVOLATILE ORGANICS - - - - -

4 OF 4

<u>PARAMETER</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>METHOD</u>	<u>EXTRACTION-</u> <u>ANALYSIS DATE</u>	<u>QC</u> <u>BATCH</u>
4-Chloro-3-methylphenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2-Chlorophenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2,4-Dichlorophenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2,4-Dimethylphenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2,4-Dinitrophenol	ND	50	SW846 8270	9/03- 9/09/92	247012
4,6-Dinitro- 2-methylphenol	ND	50	SW846 8270	9/03- 9/09/92	247012
2-Methylphenol	ND	10	SW846 8270	9/03- 9/09/92	247012
4-Methylphenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2-Nitrophenol	ND	10	SW846 8270	9/03- 9/09/92	247012
4-Nitrophenol	ND	50	SW846 8270	9/03- 9/09/92	247012
Pentachlorophenol	ND	50	SW846 8270	9/03- 9/09/92	247012
Phenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2,4,5-Trichlorophenol	ND	10	SW846 8270	9/03- 9/09/92	247012
2,4,6-Trichlorophenol	ND	10	SW846 8270	9/03- 9/09/92	247012

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Nitrobenzene-d5	111	(35 - 114)
2-Fluorobiphenyl	67	(43 - 116)
Terphenyl-d14	35	(33 - 141)
2-Fluorophenol	62	(21 - 100)
Phenol-d5	55	(10 - 94)
2,4,6-Tribromophenol	73	(10 - 123)

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-01 (.5-1.5') 9-1-92 0900

WO #: 87009

LAB #: A2I020022-001

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	95	0.5	%	USEPA 160.3	9/03- 9/04/92	247054

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-01 (4'-5') 9-1-92 0910

WO #: 87010
LAB #: A2I020022-002
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	PREPARATION -		<u>QC</u>	<u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	%		<u>ANALYSIS DATE</u>			
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/03-	9/04/92	247055		

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-02 (.5'-1.5') 9-1-92 0940

WO #: 87011

LAB #: A2I020022-003

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	98	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-02 (4'-5') 9-1-92 0945

WO #: 87012
LAB #: A2I020022-004
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION -</u>		<u>QC</u> <u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	<u>%</u>		<u>ANALYSIS DATE</u>		
Solids, Total (TS)	97	0.5	%	USEPA 160.3	9/03-	9/04/92	247055	

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-03 (.5'-1.5') 9-1-92 1000

WO #: 87015

LAB #: A2I020022-005

MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- INORGANIC ANALYTICAL REPORT -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC</u>	<u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>DATE</u>		
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/03-	9/04/92		247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-03 (4'-5') 9-1-92 1010

WO #: 87016
LAB #: A2I020022-006
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING <u>LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	83	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018
LAB #: A2I020022-007
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019
LAB #: A2I020022-008
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	77	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04A,MS,MSD 9-1-92 1125

WO #: 87020

LAB #: A2I020022-009

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-05 (.5'-1.5') 9-1-92 1355

WO #: 87023

LAB #: A2I020022-011

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	PREPARATION -		<u>QC</u>	<u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	%		<u>ANALYSIS DATE</u>			
Solids, Total (TS)	97	0.5	%	USEPA 160.3	9/03-	9/04/92	247055		

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-05 (4'-5') 9-1-92 1405

WO #: 87024

LAB #: A2I020022-012

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	95	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-06 (.5'-1.5') 9-1-92 1415

WO #: 87025

LAB #: A2I020022-013

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	%			
Solids, Total (TS)	97	0.5	%	USEPA 160.3	9/03-	9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-06 (4'-5') 9-1-92 1420

WO #: 87026

LAB #: A2I020022-014

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	PREPARATION -		<u>QC</u>	<u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	<u>%</u>		<u>ANALYSIS DATE</u>	<u>DATE</u>		
Solids, Total (TS)	97	0.5	%	USEPA 160.3	9/03-	9/04/92		247055	

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-07 (.5'-1.5') 9-1-92 1430

WO #: 87027

LAB #: A2I020022-015

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING <u>LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION -</u> <u>ANALYSIS DATE</u>	QC <u>BATCH</u>
Solids, Total (TS)	98	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-07 (4'-5') 9-1-92 1440

WO #: 87028

LAB #: A2I020022-016

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-08 (.5'-1.5') 9-1-92 1445

WO #: 87029

LAB #: A2I020022-017

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>				
Solids, Total (TS)	98	0.5	%	USEPA 160.3	9/03-	9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-08 (4'-5') 9-1-92 1455

WO #: 87032

LAB #: A2I020022-018

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION -</u>		<u>QC</u>	<u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	<u>%</u>		<u>ANALYSIS DATE</u>			
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/03-	9/04/92	247055		

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09 (.5'-1.5') 9-1-92 1505

WO #: 87036

LAB #: A2I020022-019

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	PREPARATION -		<u>QC</u>	<u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	%		<u>ANALYSIS DATE</u>			
Solids, Total (TS)	98	0.5	%	USEPA 160.3	9/03-	9/04/92	247055		

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09A (.5'-1.5') 9-1-92 1505

WO #: 87037

LAB #: A2I020022-020

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>	%			
Solids, Total (TS)	98	0.5	%	USEPA 160.3	9/03-	9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09 (4'-5') 9-1-92 1515

WO #: 87042
LAB #: A2I020022-021
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	95	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-10 (.5'-1.5') 9-1-92 1525

WO #: 87043

LAB #: A2I020022-022

MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING <u>LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION -</u> <u>ANALYSIS DATE</u>	QC <u>BATCH</u>
Solids, Total (TS)	97	0.5	%	USEPA 160.3	9/03- 9/04/92	247055

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-10 (4'-5') 9-1-92 1530

WO #: 87045
LAB #: A2I020022-023
MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	REPORTING			<u>METHOD</u>	PREPARATION -		<u>QC</u>
	<u>RESULT</u>	<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH</u>	
Solids, Total (TS)	95	0.5	%	USEPA 160.3	9/03- 9/04/92	247056	

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-00-SS-01 (.5'-1.5') 8-31-92 1540

WO #: 86858

LAB #: A2I010054-001

MATRIX: SOLID

DATE RECEIVED: 9/01/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING <u>LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	PREPARATION - <u>ANALYSIS DATE</u>	QC <u>BATCH</u>
Solids, Total (TS)	97	0.5	%	USEPA 160.3	9/02- 9/03/92	246036

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-00-SS-01 (4'-5') 8-31-92 1555

WO #: 86860

LAB #: A2I010054-002

MATRIX: SOLID

DATE RECEIVED: 9/01/92

- - - - - INORGANIC ANALYTICAL REPORT - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Solids, Total (TS)	96	0.5	%	USEPA 160.3	9/02- 9/03/92	246036

NOTE: AS RECEIVED

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-01 (.5-1.5') 9-1-92 0900

WO #: 87009

LAB #: A2I020022-001

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	RESULT (mg/L)	REPORTING LIMIT	CF	METHOD	PREPARATION - ANALYSIS DATE	REG. LIMIT
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

DD (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-01 (4'-5') 9-1-92 0910

WO #: 87010
 LAB #: A2I020022-002
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CP (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ID (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-02 (.5'-1.5') 9-1-92 0940

WO #: 87011
 LAB #: A2I020022-003
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT</u> <u>(mg/L)</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION -</u> <u>ANALYSIS DATE</u>	<u>REG.</u> <u>LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-02 (4'-5') 9-1-92 0945

WO #: 87012
 LAB #: A2I020022-004
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.091	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CP (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-03 (.5'-1.5') 9-1-92 1000

WO #: 87015
 LAB #: A2I020022-005
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-03 (4'-5') 9-1-92 1010

WO #: 87016
 LAB #: A2I020022-006
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018
 LAB #: A2I020022-007
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019

LAB #: A2I020022-008

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-05 (.5'-1.5') 9-1-92 1355

WO #: 87023

LAB #: A2I020022-011

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-05 (4'-5') 9-1-92 1405

WO #: 87024

LAB #: A21020022-012

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CP (Bias Correction Factor)

Bias Correction Factor determined on sample: A21020022-001 A

DD (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-06 (.5'-1.5') 9-1-92 1415

WO #: 87025

LAB #: A2I020022-013

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-06 (4'-5') 9-1-92 1420

WO #: 87026

LAB #: A2I020022-014

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	RESULT (mg/L)	REPORTING LIMIT	CF	METHOD	PREPARATION - ANALYSIS DATE	REG. LIMIT
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-07 (.5'-1.5') 9-1-92 1430

WO #: 87027

LAB #: A2I020022-015

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NON DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-07 (4'-5') 9-1-92 1440

WO #: 87028

LAB #: A21020022-016

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-08 (.5'-1.5') 9-1-92 1445

WO #: 87029

LAB #: A21020022-017

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21020022-001 A

ND (NON DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-08 (4'-5') 9-1-92 1455

WO #: 87032

LAB #: A2I020022-018

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09 (.5'-1.5') 9-1-92 1505

WO #: 87036

LAB #: A2I020022-019

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09 (4'-5') 9-1-92 1515

WO #: 87042

LAB #: A21020022-021

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/92

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.455	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009

CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-10 (.5'-1.5') 9-1-92 1525

WO #: 87043

LAB #: A2I020022-022

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TCLP EXTRACTION DATE: 9/04/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	0.11	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A2I020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-10 (4'-5') 9-1-92 1530

WO #: 87045
 LAB #: A21020022-023
 MATRIX: SOLID

DATE RECEIVED: 9/02/92
 TCLP EXTRACTION DATE: 9/04/9

BIAS CORRECTED

----- TOXICITY CHARACTERISTIC METALS -----

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

<u>PARAMETER</u>	<u>RESULT (mg/L)</u>	<u>REPORTING LIMIT</u>	<u>CF</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>REG. LIMIT</u>
Silver	ND	0.106	0.94	SW846 6010	9/04- 9/09/92	5.00
Arsenic	ND	0.500	1.00	SW846 6010	9/04- 9/09/92	5.00
Barium	ND	1.020	0.98	SW846 6010	9/04- 9/09/92	100.00
Cadmium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	1.00
Chromium	ND	0.103	0.97	SW846 6010	9/04- 9/09/92	5.00
Lead	ND	0.105	0.95	SW846 6010	9/04- 9/09/92	5.00
Selenium	ND	0.273	1.10	SW846 6010	9/04- 9/09/92	1.00
Mercury	ND	0.021	0.94	SW846 7471	9/04- 9/05/92	0.20

NOTE: Bias Correction Batch: 87009 HG Bias Correction Batch: 87009
 CF (Bias Correction Factor)

Bias Correction Factor determined on sample: A21020022-001 A

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-01 (.5-1.5') 9-1-92 0900

WO #: 87009
 LAB #: A2I020022-001
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	14,000	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	4.3	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	530	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.3	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	11	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	2.9	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	9,500	5.3	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	530	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	530	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	20	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	530	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	32	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	23	5.3	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.3	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	2.1	2.0	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	2.6	0.3	mg/kg	SW846 7421	9/03-	9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-01 (4'-5') 9-1-92 0910

WO #: 87010
 LAB #: A2I020022-002
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	2,600	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	2.5	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	6.0	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	1.4	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	1,700	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	5.6	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	7.0	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	ND	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	1.1	0.3	mg/kg	SW846 7421	9/03-	9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-02 (.5'-1.5') 9-1-92 0940

WO #: 87011
 LAB #: A2I020022-003
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	6,400	20	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	3.5	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	4.6	2.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	1.8	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	3,700	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	16	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	9.0	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	1.6	1.0	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	3.8	0.3	mg/kg	SW846 7421	9/03-	9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-02 (4'-5') 9-1-92 0945

WO #: 87012
 LAB #: A2I020022-004
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	2,400	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	2.2	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	2.8	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	1,600	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	4.8	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	0.8	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	1.1	0.3	mg/kg	SW846 7421	9/03-	9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-03 (.5'-1.5') 9-1-92 1000

WO #: 87015
 LAB #: A2I020022-005
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

- - - - - TAL METALS - - - - -

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	2,000	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	2.3	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	3.0	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	1.8	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	1,300	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	4.5	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	0.5	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	6.2	0.3	mg/kg	SW846 7421	9/03-	9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.2	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-03 (4'-5') 9-1-92 1010

WO #: 87016
 LAB #: A2I020022-006
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,300	24	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	2.5	1.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.6	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	600	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	6.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	ND	2.4	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	1.2	1.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	1,500	6.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	600	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	600	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	4.7	1.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	600	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.8	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	36	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	6.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	ND	6.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.6	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	1.4	0.4	mg/kg	SW846 7421	9/03- 9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium	ND	0.6	mg/kg	SW846 7740	9/03- 9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (.5-1.5') 9-1-92 1115

WO #: 87018
 LAB #: A2I020022-007
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	3,000	21	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	3.4	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	1,200	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	2.3	2.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	1.4	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	2,000	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	6.4	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.6	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	3.1	0.3	mg/kg	SW846 7421	9/03- 9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03- 9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04 (4'-5') 9-1-92 1125

WO #: 87019

LAB #: A2I020022-008

MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,000	26	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	2.2	1.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.6	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	650	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	6.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	3.8	2.6	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	1.6	1.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	1,600	6.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	650	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	650	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	6.2	1.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	650	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	39	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	6.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	10	6.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	ND	0.6	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	1.4	0.4	mg/kg	SW846 7421	9/03- 9/08/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium	ND	0.6	mg/kg	SW846 7740	9/03- 9/10/92	247053
Thallium	ND	1.3	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-04A,MS,MSD 9-1-92 1125

WO #: 87020
 LAB #: A2I020022-009
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	ND	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	ND	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	0.6	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	1.2	0.3	mg/kg	SW846 7421	9/03-	9/08/92	247053
Mercury	0.1	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-05 (.5'-1.5') 9-1-92 1355

WO #: 87023

LAB #: A2I020022-011

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	17	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	2.4	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	2.4	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	1,400	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	4.5	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	0.7	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	2.9	0.3	mg/kg	SW846 7421	9/03-	9/09/92	247053
Mercury	0.1	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-05 (4'-5') 9-1-92 1405

WO #: 87024
 LAB #: A21020022-012
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,200	21	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	2.5	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	2.2	2.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	1,600	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	4.7	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	32	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	ND	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	ND	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	0.9	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03- 9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-06 (.5'-1.5') 9-1-92 1415

WO #: 87025
 LAB #: A2I020022-013
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	4,000	21	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	3.4	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	4.5	2.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	1.2	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	2,800	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	7.0	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	5.8	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	9.8	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.9	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	2.3	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03- 9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-06 (4'-5') 9-1-92 1420

WO #: 87026
 LAB #: A2I020022-014
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	1,800	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	2.3	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	ND	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	1,500	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	4.7	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	ND	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	0.8	0.3	mg/kg	SW846 7421	9/03-	9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NOT DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-07 (.5'-1.5') 9-1-92 1430

WO #: 87027
 LAB #: A2I020022-015
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,100	20	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	1.8	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	ND	2.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	8.6	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	1,200	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	7.8	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	5.7	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.8	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	7.1	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03- 9/09/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-07 (4'-5') 9-1-92 1440

WO #: 87028
 LAB #: A2I020022-016
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC</u> <u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	2,100	21	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	2.2	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	ND	2.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	2.8	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	1,500	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	4.7	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	0.5	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	1.3	0.3	mg/kg	SW846 7421	9/03-	9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/10/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-08 (.5'-1.5') 9-1-92 1445

WO #: 87029

LAB #: A2I020022-017

MATRIX: SOLID

DATE RECEIVED: 9/02/92

TAL METALS

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,900	20	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	3.6	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	6.8	2.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	2.1	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	2,000	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	11	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	5.9	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.8	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	6.8	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium			mg/kg	SW846 7740	9/03- 9/09/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-08 (4'-5') 9-1-92 1455

WO #: 87032
 LAB #: A2I020022-018
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,100	21	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	2.0	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	3.8	2.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	1,600	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	4.4	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	520	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	ND	5.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.8	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	1.4	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium			mg/kg	SW846 7740	9/03- 9/09/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09 (.5'-1.5') 9-1-92 1505

WO #: 87036

LAB #: A2I020022-019

MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION -</u>	<u>QC</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	1,600	20	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	1.8	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	2.2	2.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	1.0	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	740	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	3.3	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	510	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	ND	5.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	ND	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	3.6	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium			mg/kg	SW846 7740	9/03- 9/09/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09A (.5'-1.5') 9-1-92 1505

WO #: 87037

LAB #: A21020022-020

MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Aluminum	1,300	20	mg/kg	SW846 6010	9/03-	9/09/92	247053
Barium	1.5	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/09/92	247053
Calcium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Cobalt	ND	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Chromium	ND	2.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Copper	1.2	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Iron	660	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Potassium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Magnesium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Manganese	2.8	1.0	mg/kg	SW846 6010	9/03-	9/09/92	247053
Sodium	ND	510	mg/kg	SW846 6010	9/03-	9/09/92	247053
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/09/92	247053
Vanadium	ND	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Zinc	ND	5.1	mg/kg	SW846 6010	9/03-	9/09/92	247053
Arsenic	ND	0.5	mg/kg	SW846 7060	9/03-	9/08/92	247053
Lead	3.2	0.3	mg/kg	SW846 7421	9/03-	9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247053
Selenium			mg/kg	SW846 7740	9/03-	9/09/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/09/92	247053

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-09 (4'-5') 9-1-92 1515

WO #: 87042
 LAB #: A2I020022-021
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION -</u>	<u>QC</u> <u>BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Aluminum	2,400	21	mg/kg	SW846 6010	9/03- 9/09/92	247053
Barium	2.6	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/09/92	247053
Calcium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Cobalt	ND	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Chromium	3.3	2.1	mg/kg	SW846 6010	9/03- 9/09/92	247053
Copper	2.0	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Iron	1,700	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Potassium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Magnesium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Manganese	5.8	1.0	mg/kg	SW846 6010	9/03- 9/09/92	247053
Sodium	ND	530	mg/kg	SW846 6010	9/03- 9/09/92	247053
Nickel	ND	4.2	mg/kg	SW846 6010	9/03- 9/09/92	247053
Antimony	ND	32	mg/kg	SW846 6010	9/03- 9/09/92	247053
Vanadium	ND	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Zinc	5.5	5.3	mg/kg	SW846 6010	9/03- 9/09/92	247053
Arsenic	0.8	0.5	mg/kg	SW846 7060	9/03- 9/08/92	247053
Lead	1.3	0.3	mg/kg	SW846 7421	9/03- 9/09/92	247053
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247053
Selenium			mg/kg	SW846 7740	9/03- 9/09/92	247053
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/09/92	247053

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-10 (.5'-1.5') 9-1-92 1525

WO #: 87043

LAB #: A2I020022-022

MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>				
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Aluminum	3,800	21	mg/kg	SW846 6010	9/03-	9/08/92	247035
Barium	3.4	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/08/92	247035
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Chromium	5.0	2.1	mg/kg	SW846 6010	9/03-	9/08/92	247035
Copper	2.4	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Iron	2,600	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Manganese	14	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/08/92	247035
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/08/92	247035
Vanadium	7.1	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Zinc	7.1	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Arsenic	2.3	0.5	mg/kg	SW846 7060	9/03-	9/04/92	247035
Lead	11	1.0	mg/kg	SW846 7421	9/03-	9/04/92	247035
Mercury	0.1	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247035
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/07/92	247035
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/05/92	247035

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-27-SS-10 (4'-5') 9-1-92 1530

WO #: 87045
 LAB #: A2I020022-023
 MATRIX: SOLID

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION -</u>	<u>QC</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH</u>
Silver	ND	1.0	mg/kg	SW846 6010	9/03- 9/08/92	247035
Aluminum	3,500	21	mg/kg	SW846 6010	9/03- 9/08/92	247035
Barium	3.4	1.0	mg/kg	SW846 6010	9/03- 9/08/92	247035
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03- 9/08/92	247035
Calcium	ND	530	mg/kg	SW846 6010	9/03- 9/08/92	247035
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03- 9/08/92	247035
Cobalt	ND	5.3	mg/kg	SW846 6010	9/03- 9/08/92	247035
Chromium	4.5	2.1	mg/kg	SW846 6010	9/03- 9/08/92	247035
Copper	1.4	1.0	mg/kg	SW846 6010	9/03- 9/08/92	247035
Iron	2,200	5.3	mg/kg	SW846 6010	9/03- 9/08/92	247035
Potassium	ND	530	mg/kg	SW846 6010	9/03- 9/08/92	247035
Magnesium	ND	530	mg/kg	SW846 6010	9/03- 9/08/92	247035
Manganese	6.7	1.0	mg/kg	SW846 6010	9/03- 9/08/92	247035
Sodium	ND	530	mg/kg	SW846 6010	9/03- 9/08/92	247035
Nickel	ND	4.2	mg/kg	SW846 6010	9/03- 9/08/92	247035
Antimony	ND	32	mg/kg	SW846 6010	9/03- 9/08/92	247035
Vanadium	ND	5.3	mg/kg	SW846 6010	9/03- 9/08/92	247035
Zinc	5.7	5.3	mg/kg	SW846 6010	9/03- 9/08/92	247035
Arsenic	0.5	0.5	mg/kg	SW846 7060	9/03- 9/04/92	247035
Lead	1.4	0.5	mg/kg	SW846 7421	9/03- 9/04/92	247035
Mercury	ND	0.1	mg/kg	SW846 7471	9/03- 9/08/92	247035
Selenium	ND	0.5	mg/kg	SW846 7740	9/03- 9/07/92	247035
Thallium	ND	1.0	mg/kg	SW846 7841	9/03- 9/05/92	247035

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-00-SS-01 (.5'-1.5') 8-31-92 1540

WO #: 86858

LAB #: A2I010054-001

MATRIX: SOLID

DATE RECEIVED: 9/01/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Aluminum	1,000	21	mg/kg	SW846 6010	9/03-	9/08/92	247035
Barium	5.9	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/08/92	247035
Calcium	540	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Chromium	4.2	2.1	mg/kg	SW846 6010	9/03-	9/08/92	247035
Copper	3.0	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Iron	990	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Manganese	7.8	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Nickel	ND	4.1	mg/kg	SW846 6010	9/03-	9/08/92	247035
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/08/92	247035
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Zinc	7.3	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Arsenic	ND	0.5	mg/kg	SW846 7060	9/03-	9/04/92	247035
Lead	21	1.2	mg/kg	SW846 7421	9/07-	9/09/92	252014
Mercury	0.1	0.1	mg/kg	SW846 7471	9/03-	9/08/92	247035
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/07/92	247035
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/05/92	247035

NOTE: DRY WEIGHT

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-00-SS-01 (4'-5') 8-31-92 1555

WO #: 86860
 LAB #: A2I010054-002
 MATRIX: SOLID

DATE RECEIVED: 9/01/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Aluminum	2,400	21	mg/kg	SW846 6010	9/03-	9/08/92	247035
Barium	2.7	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Beryllium	ND	0.5	mg/kg	SW846 6010	9/03-	9/08/92	247035
Calcium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Cadmium	ND	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Cobalt	ND	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Chromium	ND	2.1	mg/kg	SW846 6010	9/03-	9/08/92	247035
Copper	1.0	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Iron	1,800	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Potassium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Magnesium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Manganese	7.8	1.0	mg/kg	SW846 6010	9/03-	9/08/92	247035
Sodium	ND	520	mg/kg	SW846 6010	9/03-	9/08/92	247035
Nickel	ND	4.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Antimony	ND	31	mg/kg	SW846 6010	9/03-	9/08/92	247035
Vanadium	ND	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Zinc	ND	5.2	mg/kg	SW846 6010	9/03-	9/08/92	247035
Arsenic	0.5	0.5	mg/kg	SW846 7060	9/03-	9/04/92	247035
Lead	1.0	0.5	mg/kg	SW846 7421	9/03-	9/04/92	247035
Mercury	ND	0.1	mg/kg	SW846 7471	9/03-	9/09/92	247035
Selenium	ND	0.5	mg/kg	SW846 7740	9/03-	9/07/92	247035
Thallium	ND	1.0	mg/kg	SW846 7841	9/03-	9/05/92	247035

NOTE: DRY WEIGHT
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-FB-SS-01 8-31-92 1630

WO #: 86862

LAB #: A2I010054-003

MATRIX: WATER

DATE RECEIVED: 9/01/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNIT</u>	<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
Silver	ND	0.01	mg/L	SW846 6010	9/02- 9/07/92	246023
Aluminum	ND	0.2	mg/L	SW846 6010	9/02- 9/07/92	246023
Barium	ND	0.01	mg/L	SW846 6010	9/02- 9/07/92	246023
Beryllium	ND	0.005	mg/L	SW846 6010	9/02- 9/07/92	246023
Calcium	ND	5.0	mg/L	SW846 6010	9/02- 9/07/92	246023
Cadmium	ND	0.01	mg/L	SW846 6010	9/02- 9/07/92	246023
Cobalt	ND	0.05	mg/L	SW846 6010	9/02- 9/07/92	246023
Chromium	ND	0.02	mg/L	SW846 6010	9/02- 9/07/92	246023
Copper	ND	0.01	mg/L	SW846 6010	9/02- 9/07/92	246023
Iron	ND	0.05	mg/L	SW846 6010	9/08- 9/09/92	252040
Potassium	ND	5.0	mg/L	SW846 6010	9/02- 9/07/92	246023
Magnesium	ND	5.0	mg/L	SW846 6010	9/02- 9/07/92	246023
Manganese	ND	0.01	mg/L	SW846 6010	9/02- 9/07/92	246023
Sodium	ND	5.0	mg/L	SW846 6010	9/02- 9/07/92	246023
Nickel	ND	0.04	mg/L	SW846 6010	9/02- 9/07/92	246023
Antimony	ND	0.3	mg/L	SW846 6010	9/02- 9/07/92	246023
Vanadium	ND	0.05	mg/L	SW846 6010	9/02- 9/07/92	246023
Zinc	ND	0.05	mg/L	SW846 6010	9/02- 9/07/92	246023
Arsenic	ND	0.005	mg/L	SW846 7060	9/02- 9/04/92	246023
Lead	ND	0.003	mg/L	SW846 7421	9/02- 9/04/92	246023
Mercury	ND	0.0002	mg/L	SW846 7470	9/02- 9/03/92	246023
Selenium	ND	0.005	mg/L	SW846 7740	9/02- 9/07/92	246023
Thallium	ND	0.01	mg/L	SW846 7841	9/02- 9/04/92	246023

NOTE: AS RECEIVED

ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-01 8-31-92 1640

WO #: 86864

LAB #: A2I010054-004

MATRIX: WATER

DATE RECEIVED: 9/01/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	PREPARATION -		<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>		
Silver	ND	0.01	mg/L	SW846 6010	9/02-	9/07/92	246023
Aluminum	ND	0.2	mg/L	SW846 6010	9/02-	9/07/92	246023
Barium	ND	0.01	mg/L	SW846 6010	9/02-	9/07/92	246023
Beryllium	ND	0.005	mg/L	SW846 6010	9/02-	9/07/92	246023
Calcium	ND	5.0	mg/L	SW846 6010	9/02-	9/07/92	246023
Cadmium	ND	0.01	mg/L	SW846 6010	9/02-	9/07/92	246023
Cobalt	ND	0.05	mg/L	SW846 6010	9/02-	9/07/92	246023
Chromium	ND	0.02	mg/L	SW846 6010	9/02-	9/07/92	246023
Copper	ND	0.01	mg/L	SW846 6010	9/02-	9/07/92	246023
Iron	0.21	0.05	mg/L	SW846 6010	9/02-	9/07/92	246023
Potassium	ND	5.0	mg/L	SW846 6010	9/02-	9/07/92	246023
Magnesium	ND	5.0	mg/L	SW846 6010	9/02-	9/07/92	246023
Manganese	ND	0.01	mg/L	SW846 6010	9/02-	9/07/92	246023
Sodium	ND	5.0	mg/L	SW846 6010	9/02-	9/07/92	246023
Nickel	ND	0.04	mg/L	SW846 6010	9/02-	9/07/92	246023
Antimony	ND	0.3	mg/L	SW846 6010	9/02-	9/07/92	246023
Vanadium	ND	0.05	mg/L	SW846 6010	9/02-	9/07/92	246023
Zinc	ND	0.05	mg/L	SW846 6010	9/02-	9/07/92	246023
Arsenic	ND	0.005	mg/L	SW846 7060	9/02-	9/04/92	246023
Lead	ND	0.003	mg/L	SW846 7421	9/02-	9/04/92	246023
Mercury	ND	0.0002	mg/L	SW846 7470	9/02-	9/03/92	246023
Selenium	ND	0.005	mg/L	SW846 7740	9/02-	9/07/92	246023
Thallium	ND	0.01	mg/L	SW846 7841	9/02-	9/04/92	246023

NOTE: AS RECEIVED
ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-02 9-1-92 1320

WO #: 87022
 LAB #: A2I020022-010
 MATRIX: WATER

DATE RECEIVED: 9/02/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION -</u>	<u>QC</u>
		<u>LIMIT</u>	<u>UNIT</u>		<u>ANALYSIS DATE</u>	
Silver	ND	0.01	mg/L	SW846 6010	9/03- 9/06/92	247052
Aluminum	ND	0.2	mg/L	SW846 6010	9/03- 9/06/92	247052
Barium	ND	0.01	mg/L	SW846 6010	9/03- 9/06/92	247052
Beryllium	ND	0.005	mg/L	SW846 6010	9/03- 9/06/92	247052
Calcium	ND	5.0	mg/L	SW846 6010	9/03- 9/06/92	247052
Cadmium	ND	0.01	mg/L	SW846 6010	9/03- 9/06/92	247052
Cobalt	ND	0.05	mg/L	SW846 6010	9/03- 9/06/92	247052
Chromium	ND	0.02	mg/L	SW846 6010	9/03- 9/06/92	247052
Copper	ND	0.01	mg/L	SW846 6010	9/03- 9/06/92	247052
Iron	ND	0.05	mg/L	SW846 6010	9/03- 9/06/92	247052
Potassium	ND	5.0	mg/L	SW846 6010	9/03- 9/06/92	247052
Magnesium	ND	5.0	mg/L	SW846 6010	9/03- 9/06/92	247052
Manganese	ND	0.01	mg/L	SW846 6010	9/03- 9/06/92	247052
Sodium	ND	5.0	mg/L	SW846 6010	9/03- 9/06/92	247052
Nickel	ND	0.04	mg/L	SW846 6010	9/03- 9/06/92	247052
Antimony	ND	0.3	mg/L	SW846 6010	9/03- 9/06/92	247052
Vanadium	ND	0.05	mg/L	SW846 6010	9/03- 9/06/92	247052
Zinc	ND	0.05	mg/L	SW846 6010	9/03- 9/06/92	247052
Arsenic	ND	0.005	mg/L	SW846 7060	9/03- 9/04/92	247052
Lead	ND	0.003	mg/L	SW846 7421	9/03/92	247052
Mercury	ND	0.0002	mg/L	SW846 7470	9/03- 9/04/92	247052
Selenium	ND	0.005	mg/L	SW846 7740	9/03- 9/07/92	247052
Thallium	ND	0.01	mg/L	SW846 7841	9/03- 9/04/92	247052

NOTE: AS RECEIVED
 ND (NONE DETECTED)

ABB ENVIRONMENTAL SERVICES

PEN-RB-SS-03 9-2-92 1220

WO #: 87329

LAB #: A2I030028-012

MATRIX: WATER

DATE RECEIVED: 9/03/92

----- TAL METALS -----

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		<u>METHOD</u>	<u>PREPARATION - ANALYSIS DATE</u>	<u>QC BATCH</u>
		<u>LIMIT</u>	<u>UNIT</u>			
Silver	ND	0.01	mg/L	SW846 6010	9/08- 9/09/92	252035
Aluminum	ND	0.2	mg/L	SW846 6010	9/08- 9/09/92	252035
Barium	ND	0.01	mg/L	SW846 6010	9/08- 9/09/92	252035
Beryllium	ND	0.005	mg/L	SW846 6010	9/08- 9/09/92	252035
Calcium	ND	5.0	mg/L	SW846 6010	9/08- 9/09/92	252035
Cadmium	ND	0.01	mg/L	SW846 6010	9/08- 9/09/92	252035
Cobalt	ND	0.05	mg/L	SW846 6010	9/08- 9/09/92	252035
Chromium	ND	0.02	mg/L	SW846 6010	9/08- 9/09/92	252035
Copper	ND	0.01	mg/L	SW846 6010	9/08- 9/09/92	252035
Iron	0.06	0.05	mg/L	SW846 6010	9/08- 9/09/92	252035
Potassium	ND	5.0	mg/L	SW846 6010	9/08- 9/09/92	252035
Magnesium	ND	5.0	mg/L	SW846 6010	9/08- 9/09/92	252035
Manganese	ND	0.01	mg/L	SW846 6010	9/08- 9/09/92	252035
Sodium	ND	5.0	mg/L	SW846 6010	9/08- 9/09/92	252035
Nickel	ND	0.04	mg/L	SW846 6010	9/08- 9/09/92	252035
Antimony	ND	0.3	mg/L	SW846 6010	9/08- 9/09/92	252035
Vanadium	ND	0.05	mg/L	SW846 6010	9/08- 9/09/92	252035
Zinc	ND	0.05	mg/L	SW846 6010	9/08- 9/09/92	252035
Arsenic	Are on the way!		mg/L	SW846 7060	9/08- 9/09/92	252035
Lead			mg/L	SW846 7421	9/08- 9/09/92	252035
Mercury			mg/L	SW846 7470	9/08- 9/09/92	252035
Selenium	Will fax this page to you in the morning!		mg/L	SW846 7740	9/08- 9/09/92	252035
Thallium			mg/L	SW846 7841	9/08- 9/09/92	252035

NOTE: AS RECEIVED
ND (NONE DETECTED)

Any questions call me!

Thanks
Denise
Finch